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GREAT FALLS TRANSPORTATION STUDY

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ROUTINE REVIEW

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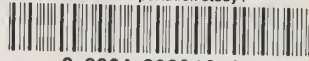
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G R E A T F A L L S
U R B A N T R A N S P O R T A T I O N S T U D Y

1968-1972
ROUTINE REVIEW REPORT

prepared by

URBAN PLANNING SECTION, PLANNING AND RESEARCH BUREAU
MONTANA DEPARTMENT OF HIGHWAYS

JULY 9, 1973

PREFACE

The purpose of the Great Falls Urban Transportation Study is to provide continuing, comprehensive and cooperative transportation planning to the metropolitan area of over 80,000 population in Cascade County. As part of the continuing transportation planning process it is the intent of this Routine Review to maintain and monitor land use, traffic, and socio-economic variables in order to determine if urban change is occurring as forecasted in the 1968 Transportation Study Update.

Our appreciation is extended to the Great Falls City-County Planning Board, the Great Falls Police Department, and the numerous city officials without whose cooperation this endeavor would have been impossible.



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Chapter I

LAND USE

Land Use Controls

The City-County Planning Board maintains responsibility for the development of the Land Use Control Regulations. Their files were consulted for the period 1968-1972 in order to find changes which had occurred during that period. The only significant change is the Planning Board's success in the development of county regulations for the southwest portion of the Planning Board's jurisdictional area.

Figure I-1 shows that the largest portion of the area is to be left as an agricultural district. Most of the remainder of the southwest district has been zoned for low density residential development. In addition, one large general business district is to be located near the airport interchange. This zoning will help insure the future growth stage within the projections for 1990.

Land Use Changes

As part of their routine surveillance, the City-County Planning Board made a complete assessment of land use changes which had occurred in each and every traffic zone within the study area. Their analysis revealed a total of seven zones which, in their estimation, had undergone major land use change in the period 1967-1972. Figure I-2 has these zones marked out in shading. The zones are as follows: zone 151, zone 174, zone 321, zone 332, zone 442, zone 525 and zone 551. A description of the changes occurring in the aforementioned zones follows:

O & D Zone 151 - Existing Land Use Changes, 1968 - 1972:

	<u>Dwelling</u> <u>Units</u>	<u>Acres</u>	<u>Industrial</u> <u>Floor Area</u> <u>Sq. Ft.</u>	<u>Industrial</u> <u>Acres</u>
1968	0*	287.200	11,600	129.380
1972	0*	287.200	11,600	129.380
1975	0*	Projected additional acres and dwelling units.		

* Not listed by the City-County Planning Board.

Projected Land Use for O & D Zone 151:

By 1975, it is projected there will be an additional 30 acres of commercial development and 22.6 acres of industrial development. This area shows no land use change for the period 1968-1972. Since that time, however, a farm implement dealer has located in the area. The location for the new stockyards will also be within this zone. /

O & D Zone 172 - Existing Land Use Changes, 1968 - 1972:

	<u>Dwelling Units</u>	<u>Acres</u>	<u>Commercial Floor Area</u>	<u>Industrial Floor Area</u>
1968	581	121.096	--	--
1972	598	121.096	924	1.502
1975	593	121.096	NCP*	NCP*

The projected land use for O & D Zone 174 by 1975 was for a total of 593 dwelling units. The 1972 land use inventory shows the projected figure has been exceeded. There has also been some commercial and industrial development in the area. Circle K food store has located in the area on 57th Street (Northeast Bypass) and also some service stations.

O & D Zone 321 - Existing Land Use Changes 1968 - 1972:

This area has developed more rapidly than projected as a residential area. Dwelling units in 1968 totaled 255 units; in 1972 - 263 units; projections for the area by 1975 were for a total of 217 units.

O & D Zone 332 - Existing Land Use Changes, 1968 - 1972:

This area has also developed more rapidly than projected. 1968 units - 232; 1972 units - 349; 1975 projected units for a total of 296.

O & D Zone 412 was projected to increase its' industrial acreage by 4.1 acres. The loss of Western Grain Exchange in the area has caused a reduction of industrial area in this zone.

O & D Zone 525 reflects two land use changes which were not projected for the area. These were the location of two T.V. stations and the City Shop complex.

O & D Zone 551 was projected, by 1970, to have little or no change. However, since then, Anaconda Company has shut down their zinc smelting operation and are in the process of razing the zinc plant itself.

* NCP - No Change Projected.

In addition to the major changes listed above, the Planning Board's assessment of land use change revealed several zones having minor changes. In most cases, these changes consisted of construction of new neighborhood type facilities to replace the old "ma and pa" type corner stores which had existed previously. The Planning Board concluded this assessment with an evaluation of these changes in relationship to traffic generation, and concluded that with the exception of the seven zones of major change, any other single land use change would be insignificant. An evaluation of the effects on traffic generation developed by an aggregation of these minor land use changes would require an intense study.



Chapter II

SOCIO-ECONOMIC INDICATORS

INTRODUCTION

An essential part of the 1968 Great Falls Transportation Plan was the development of a future traffic network. Socio-economic characteristics were used as criteria for the development of the 1990 traffic network in the Great Falls Study Area, by establishing and forecasting urban growth trends. The primary characteristics surveilled included dwelling units, population, employment, student enrollment, and motor vehicle registration. Each socio-economic indicator was projected through 1975, and 1990, using 1966, as the base year. Progressions of the five socio-economic indicators along with further analysis refinements formed parameter inputs for working statistical models. Due to a lack of sufficient in depth data, minor estimations and assumptions had to be made. Since assumptions have to be made relative to the statistical models, it has become necessary to continually monitor all actual conditions to assure that the assumptions used in projecting socio-economic indicators are still reasonable and valid. This, in essence, is the purpose of the Routine Review.

Included in this review will be an evaluation and comparison of each socio-economic indicator. This evaluation will help determine whether the projected growth trends are in accordance with actual trends. If a great variation between the actual and projected is found, the Routine Review should bring out where deficiencies are anticipated. This information will assist in the systematic reappraisal of the existing transportation plan and determination of future action.

In the following pages, each socio-economic indicator comparison has been illustrated in graphic form. Three basic reference sources were used in developing the following graphs. The 1968 Great Falls Transportation

Study contained base year data with projections for the years 1975 and 1990. More recently, the 1970 Census Block Statistics and an updated Land Use Inventory were used to produce update counts. It is evident from the following graphs that the 1968 projections show some deviation from actual findings.

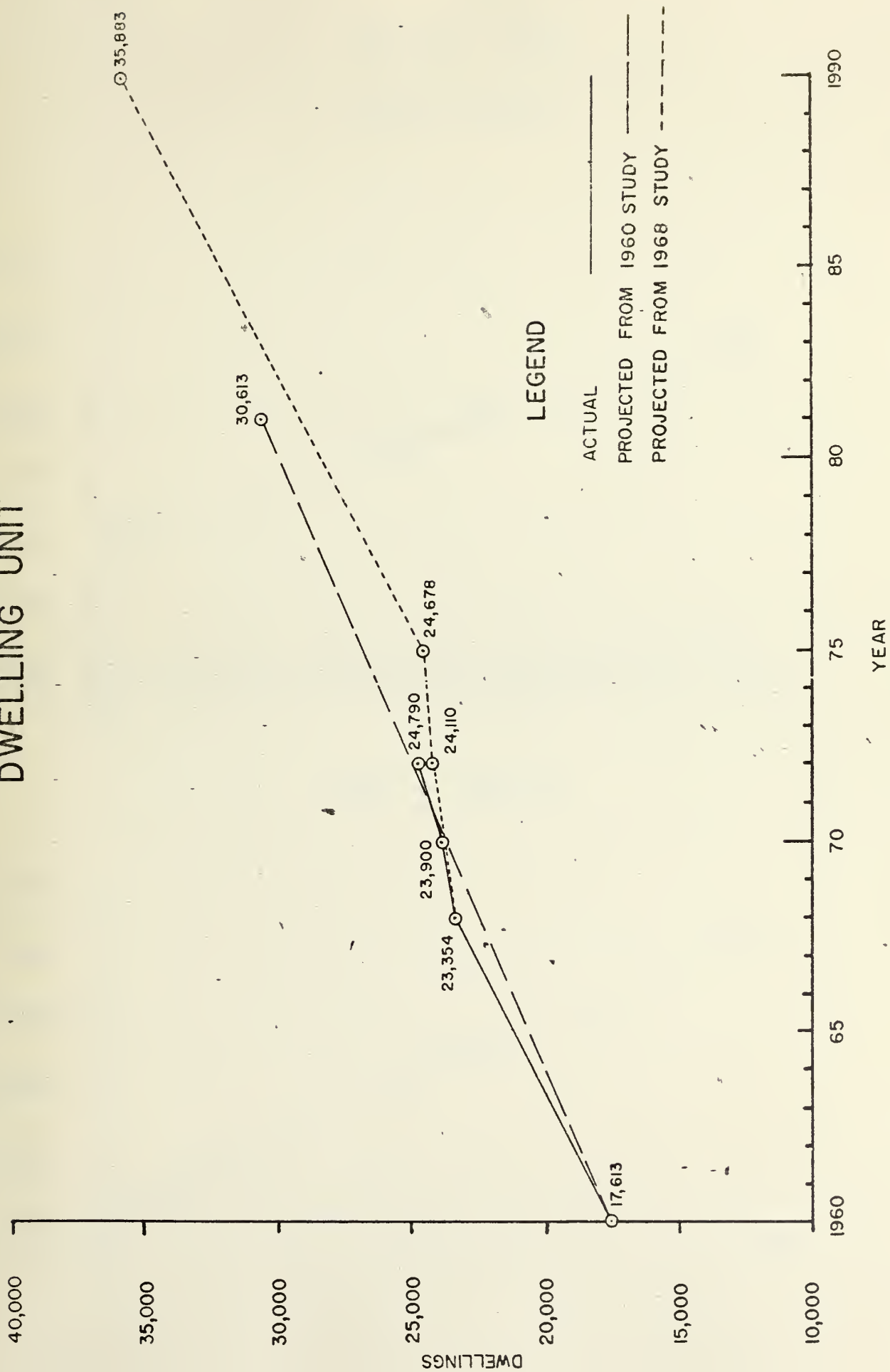
Dwelling Units

Included in Appendix A is a list of zonal tabulations for Dwelling Units. This should be referred to for a more complete picture of the dwelling unit arrangement.

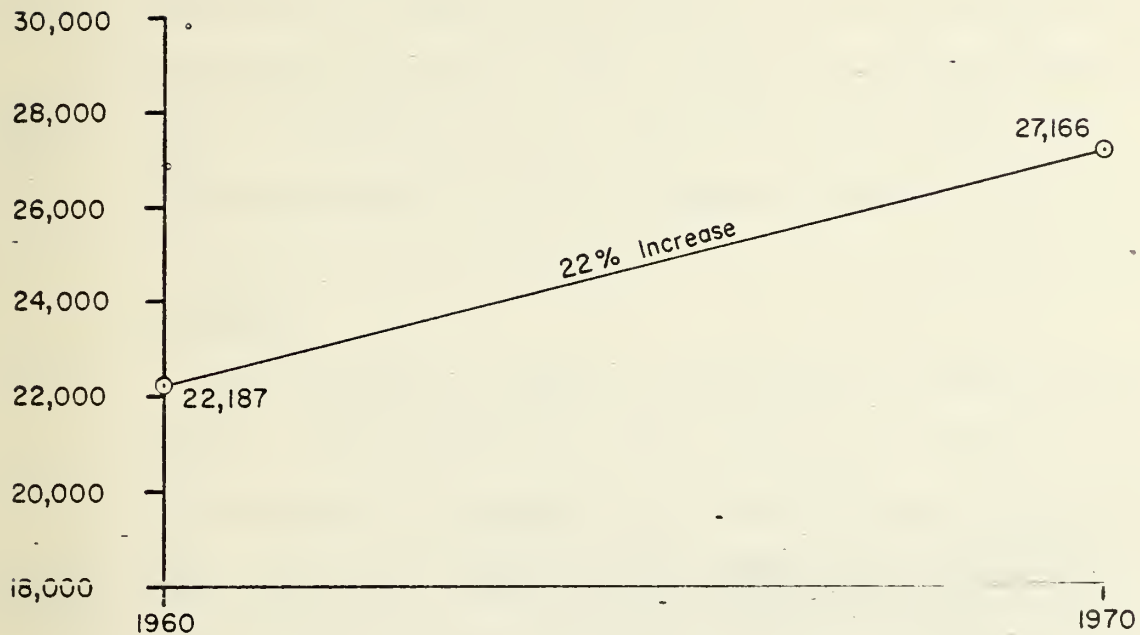
Dwelling Units are used as the basis from which density factors are drawn. The number of the variables in a census tract (i.e., persons, vehicles, etc.) is divided by the number of Dwelling Units in that tract. These density figures can also be viewed in Appendix A.

Figure II-1 is a composite of data showing a comparison of available Dwelling Unit information. The 1968, 1975 and 1990 figures are those found in the Great Falls Transportation Plan; the 1970 and 1972 figures are actual figure counts collected from three major sources of information: 1) 1970 Census Block Statistics for the Great Falls Urbanized Area, publication HC(3)141; 2) 1970 Census Tract publication PHC 81; 3) 1970 Great Falls City-County Planning Board Land Use Inventory. By analyzing data found in the three sources, a housing count per zone was established. The dwelling unit count was then expanded to include all housing within the cordon area as of January 1, 1972. This particular analyses was accomplished by using the city building permit records, and, for those outside the area, records from the County Reclassification Office and the County Assessor's Office.

DWELLING UNIT



DWELLING UNITS
CASCADE COUNTY



STATE of MONTANA

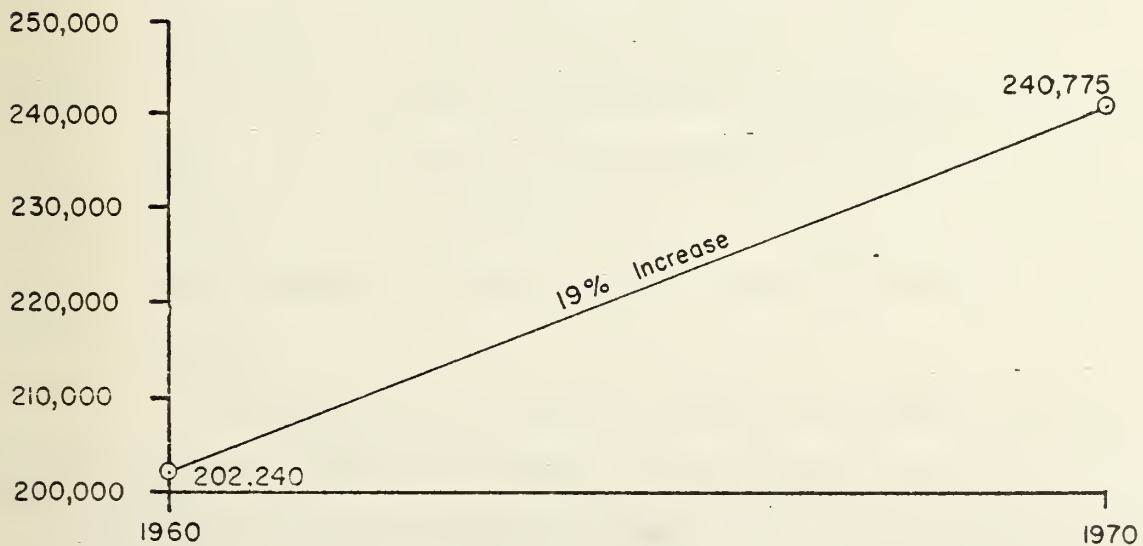


Figure II-1 shows Dwelling Unit data that has been developed from 1960 through 1990. Some of the figures appearing on the graph are actuals while the others are projections. The 1981 projection is a figure developed from the 1961 Great Falls Transportation Plan. In the 1968 Update, the 1981 projections were refined and extended to 1990. Actual figures appearing on the graph for the years 1960, 1968, 1970 and 1972 show that 1981 projection and 1990 projections are quite close to the actual figures. Further, II-2 has been added to place the figures in perspective with the county and State.

Population

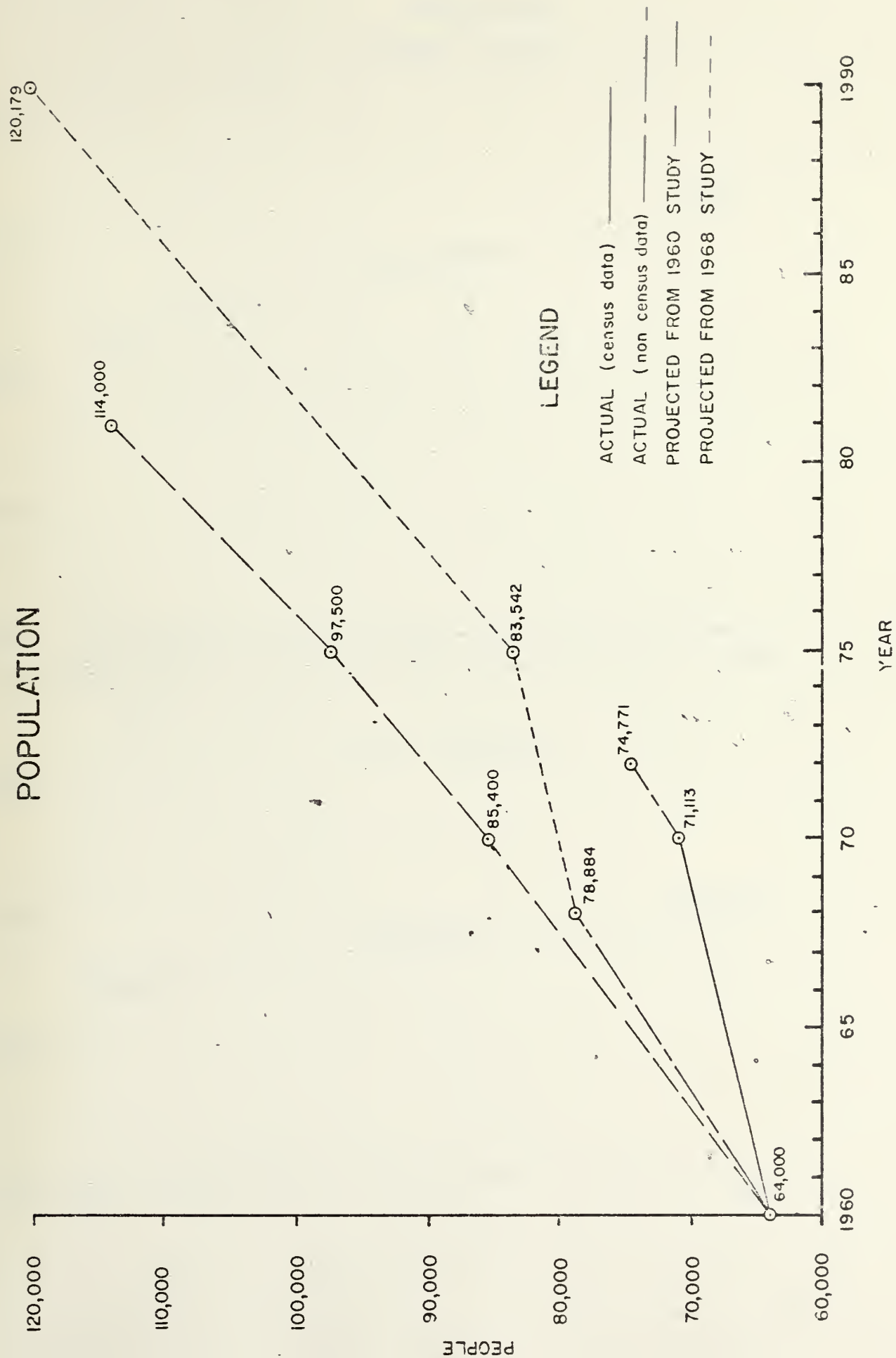
Data gathered for Figure II-3 was taken from several different sources: 1) The 1968 Update of the Great Falls Transportation Plan; 2) The 1970 and 1972 population from the 1970 Census Block Statistics; 3) The 1960 density figure from the 1960 Census Statistics used to develop the 1968 base data; and 4) The 1975 and 1990 projections were based on data gathered for "The 1960 Great Falls Urban Transportation Survey."

In 1961, the Great Falls Urban Transportation Survey made a projection for 1981. This study was updated in 1968 and a revised projection for 1990 was plotted from the 1968 estimate.

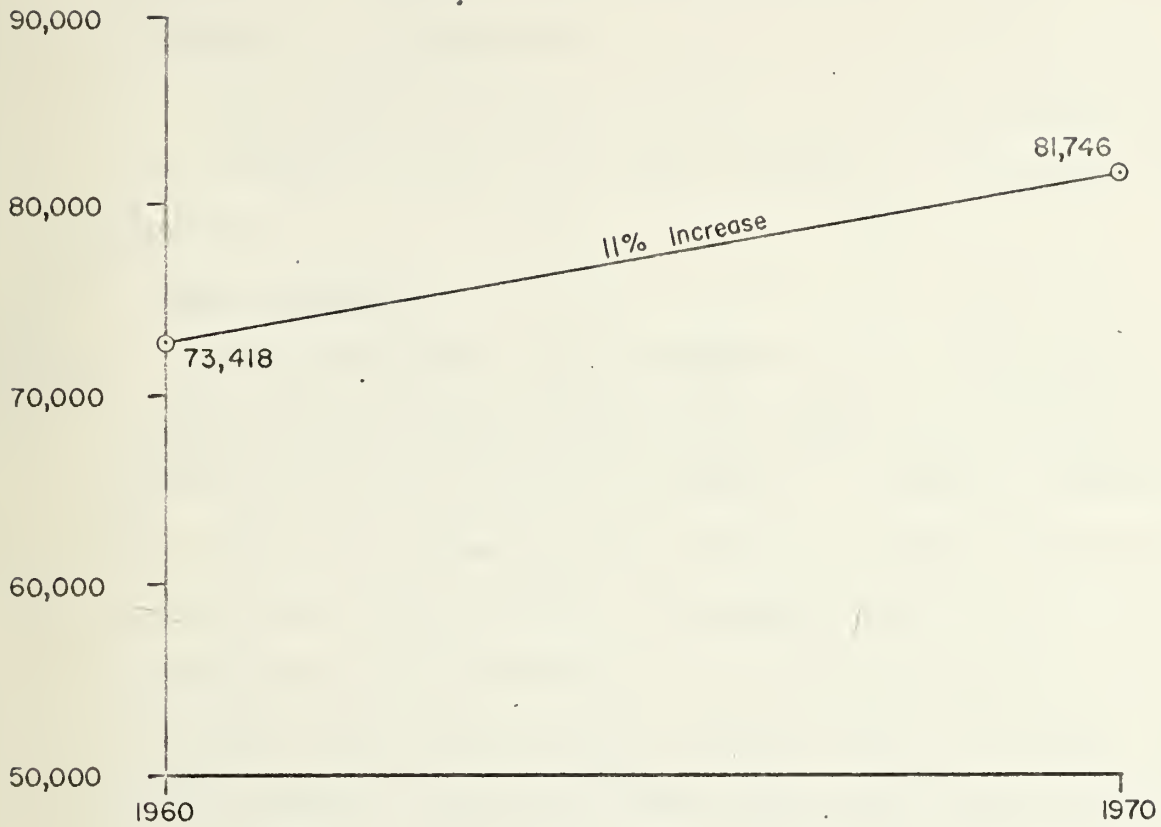
An overestimation of population in the 1968 population estimate was made. This was generated by an exaggerated 1960 density figure (average household size) of approximately 3.4. This density figure should be adjusted downward in light of the 1970 Census Statistics to between 3.05 and 3.1.

A comparison was then made between 1972 projected and actual 1972 figures. The 1972 projection (81,554) showed a variance of 6,783 people over the 1972 actual (74,771). Again this can be related back to the high density figure used as the foundation for the 1968 base data pro-

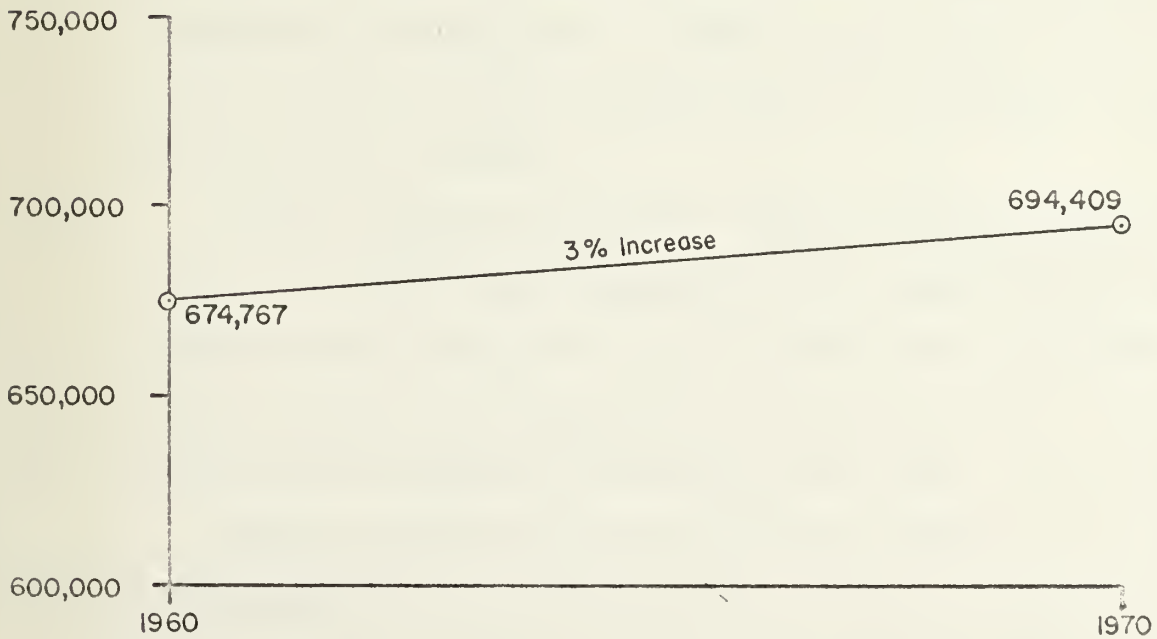
POPULATION



POPULATION
CASCADE COUNTY



STATE of MONTANA



jection. It is apparent that this density factor variation caused the deficiency in the projection.

For comparative purposes, the state and county population trends are included in Figure II-4. Further, Appendix A contains zonal tabulations.

School Enrollment

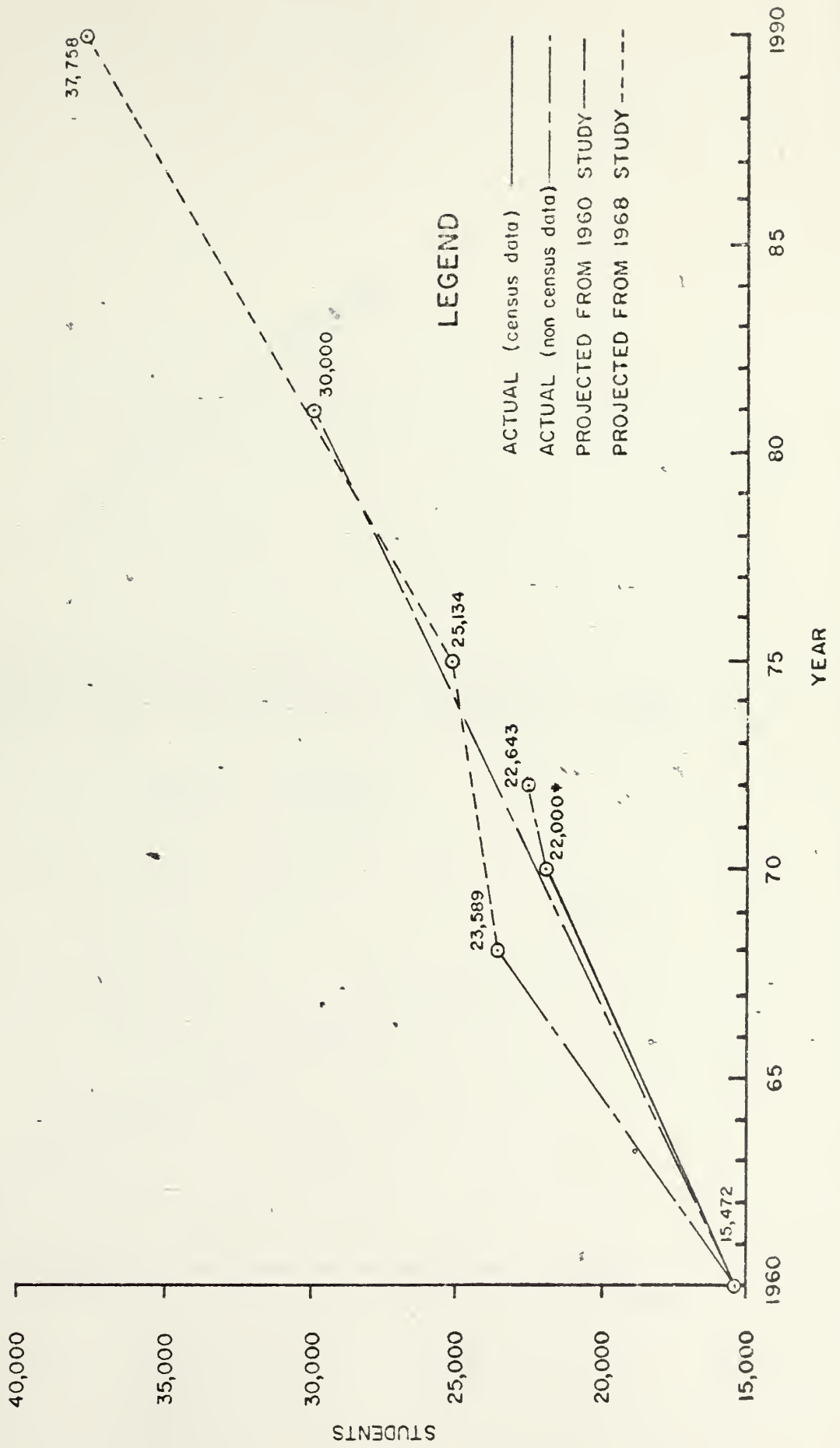
School enrollment, like other socio-economic factors discussed in this review, was compared between the 1972 projected, as found in the 1968 study, and the 1972 actual estimates. The projected enrollment for 1972, 24,469, showed an over projection of 1826 students when compared to the actual figure of 22,643. The graph on Figure II-4 clearly shows a slight decline in student number for the actual estimated data from 1970 and 1972. The decline in student enrollment can be attributed to the lower birth rate and the high density figure used in the 1968 projections.

In 1961, a projection for 1981 school enrollment was made. The 1968 estimated enrollment, as found in the Great Falls Transportation Plan, demonstrated the apparent need to adjust the projection. This was done and the projection further extended to 1990. It is apparent now, that the 1968 estimate was high.

Student population for the 1968, 1975 and 1990 projections was taken from the Great Falls Urban Transportation Plan, updated 1968. Census Block Statistics were used for the 1970 actual student enrollment. Information for the student enrollment for 1972 was taken from the 1972 School Census which was conducted in February of that year. (See Figure II-5).

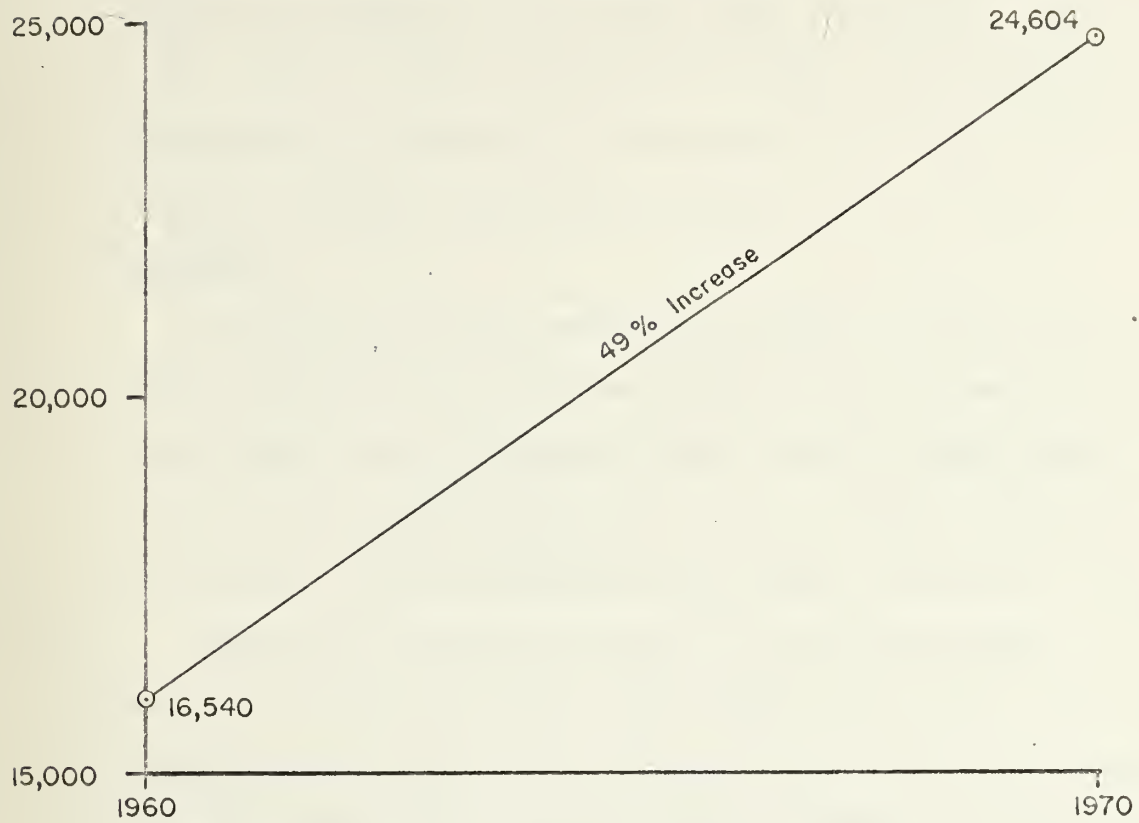
County and Statewide counts are included in Figure II-6 for comparative purposes.

SCHOOL ENROLLMENT

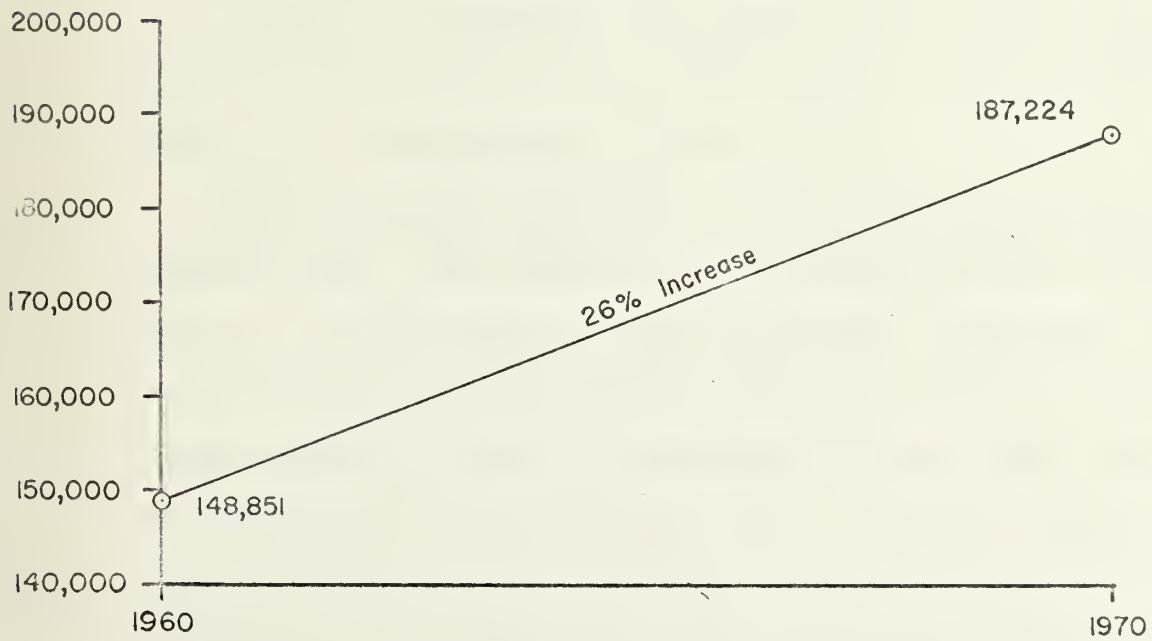


STUDENTS

CASCADE COUNTY



STATE of MONTANA



The student population effects traffic generation extensively. Parents and children driving to/from school account for a large number of trips. Also the jobs generated by the needed school transaction (teachers, administrators, janitors, etc.) also produce more traffic. Refer to Appendix A for zonal student number totals.

Employment

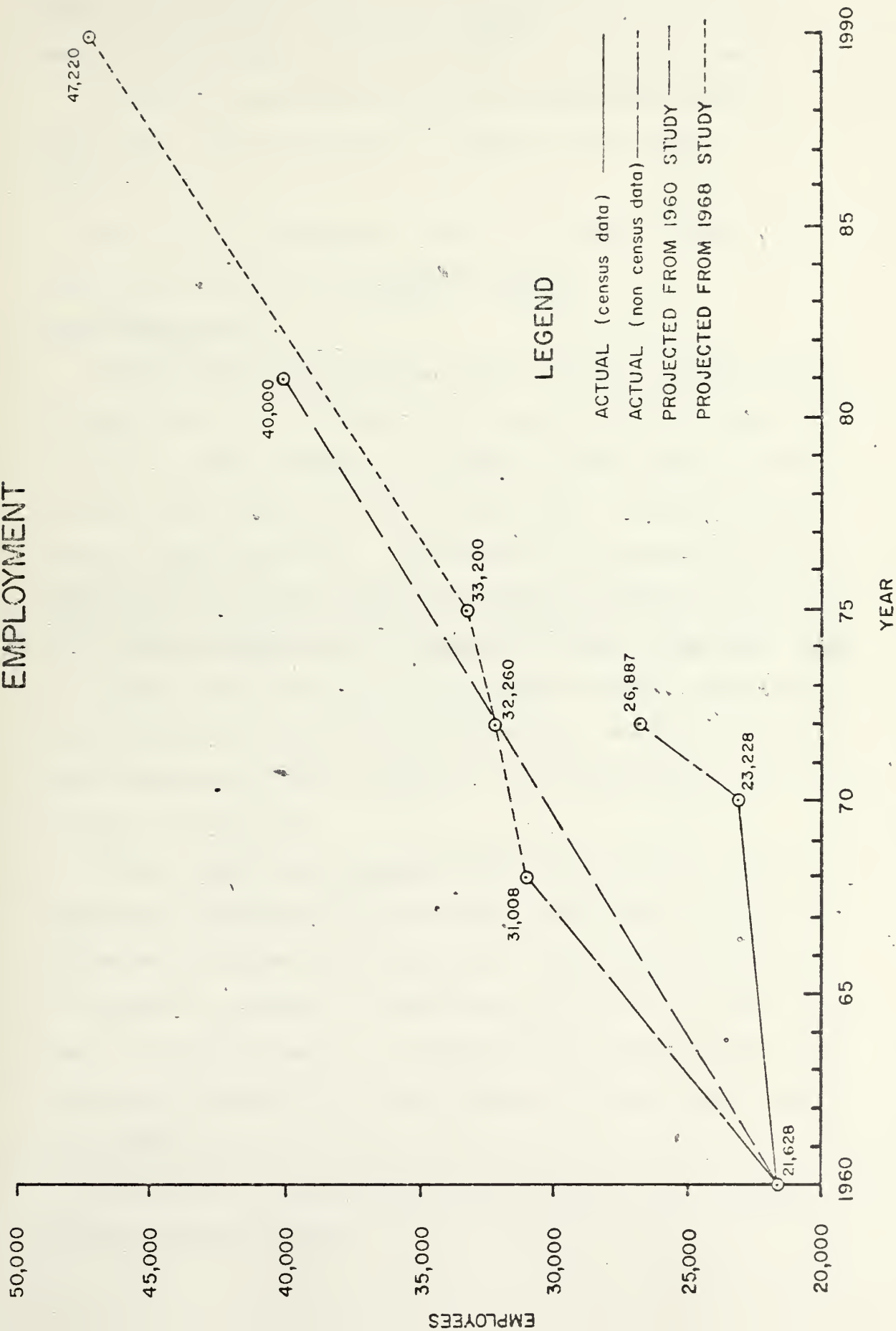
A projection for 1981 employment was made for the 1961 Great Falls Study. An estimation in 1968 was developed for that year's employment. This estimate, which now appears to have been quite high, showed an apparent need to adjust the 1981 projection. Thus, in 1968, a projection for 1990 was developed. This projection was then used in reference to this analysis.

Employment statistics for 1968, and the projected years 1975 and 1990, were taken from the 1968 Great Falls Transportation Plan. The actual 1970 and 1972 figures were collected through the cooperation of the local State Employment Office and County-wide employment statistics published in the 1970 Census Tract Report.

A correlation between the actual 1972 figures and the projected 1972 figures showed a deviation of over 5300 employees. The 1972 actual was 26,887. The 1972 projected was 32,260.

Figure II-7 shows considerable difference between the actual and projected lines. This difference can be attributed in part to several economic occurrences within the Great Falls area. First of all, the Anaconda Company cut back the smelter production capacity causing several hundred people to be layed off. Secondly, the missile bases planned for the Great Falls area were cancelled. This nulified many government contracts,

EMPLOYMENT



which in turn cancelled many jobs. These occurrences facilitate the need for future analysis of the situation over the next few years.

A decline in employment would cause a proportioned decrease in "work trips". This would cause the projected traffic needs to be in error.

State and county employment figures are included in Figure II-8. This should be observed for comparative purposes.

Vehicle Registration

Vehicle registration projections were achieved by checking several different sources. The 1968 base data and projections were taken from the 1968 Great Falls Transportation Study; the 1970 actuals came from the Census Block Statistics; and the 1972 actuals from the Department of Motor Vehicle Registration. The projected 1972 automobile figure of 31,993 and the actual 1972 figure 32,050 showed a difference of 57 vehicles. This was approximately a .5 percent deviation. (See Figure II-9).

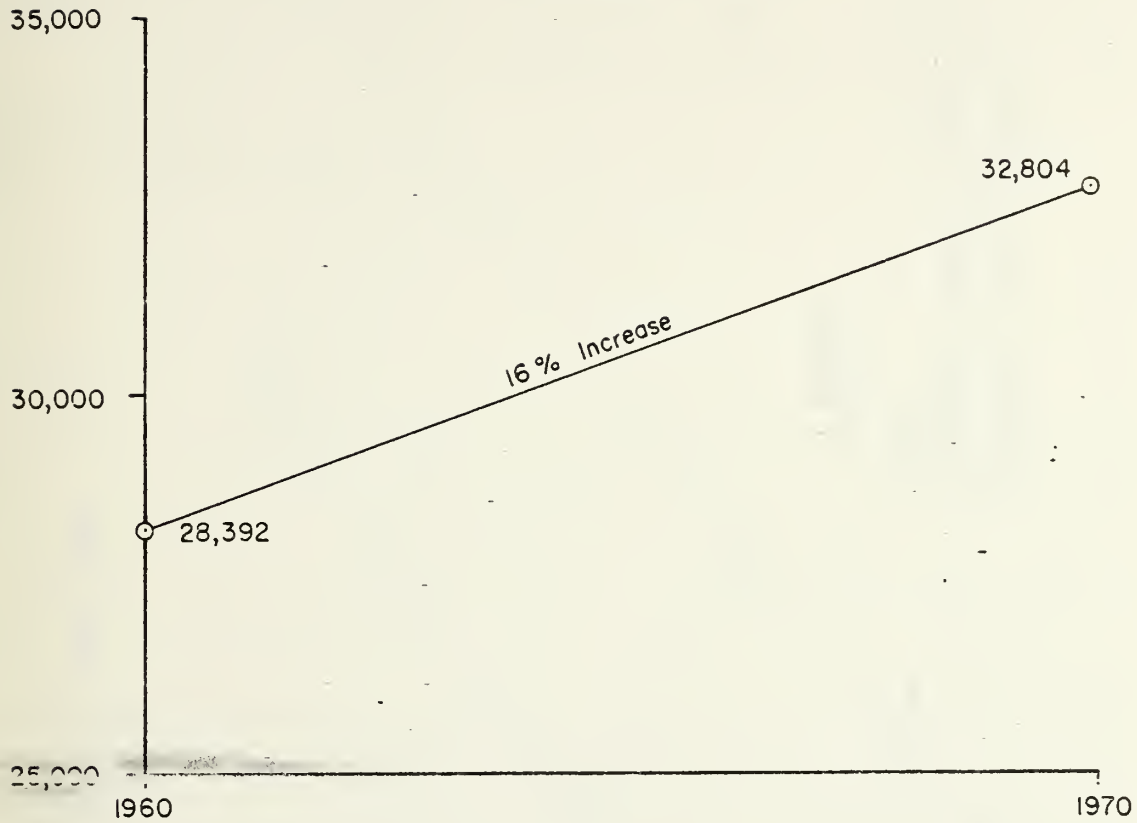
In 1961, the projection of vehicle registration for 1981 was made. This projection was updated, refined and extended to 1990 in the Great Falls Transportation Plan 1968 Update. Both of these projections are depicted in Figure II-9.

Vehicle registration is somewhat difficult to tabulate since the registration tabulations are for the whole county. Since the study is involved with the Great Falls Urban Area, a rather tedious task had to be undertaken to segregate the study area from the rest of Cascade County. However, each source used for the 1968 projections and the 1970 and 1972 actuals was considered to be the most reliable for the period in which it was used.

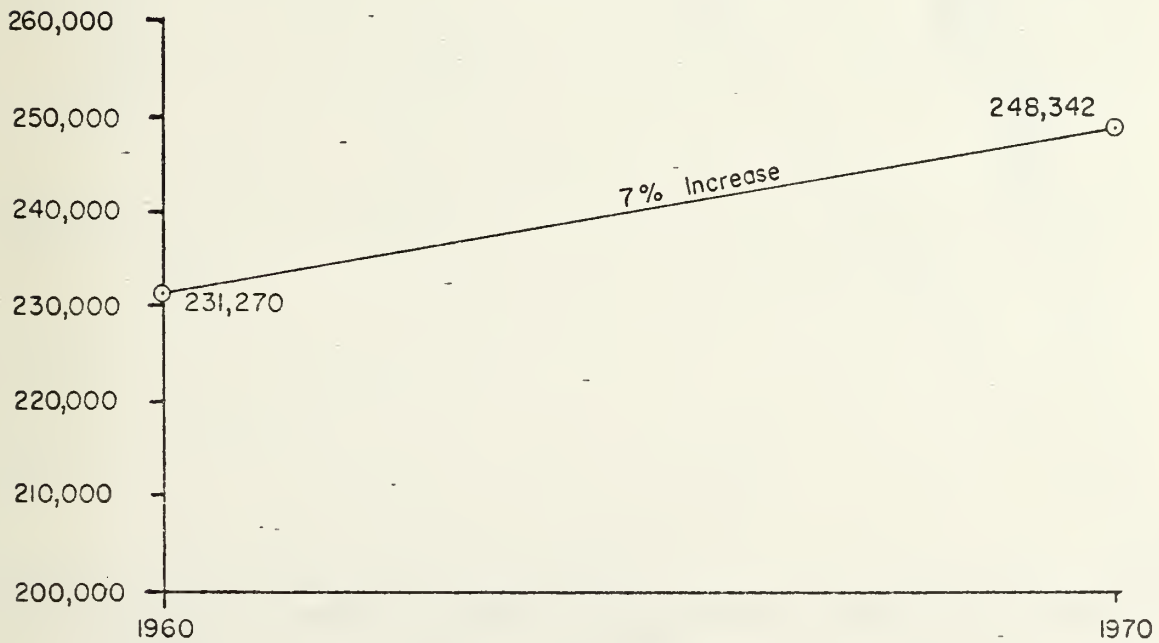
Supplements for comparison are found in Figure II-10. These are the State and county totals.

EMPLOYMENT

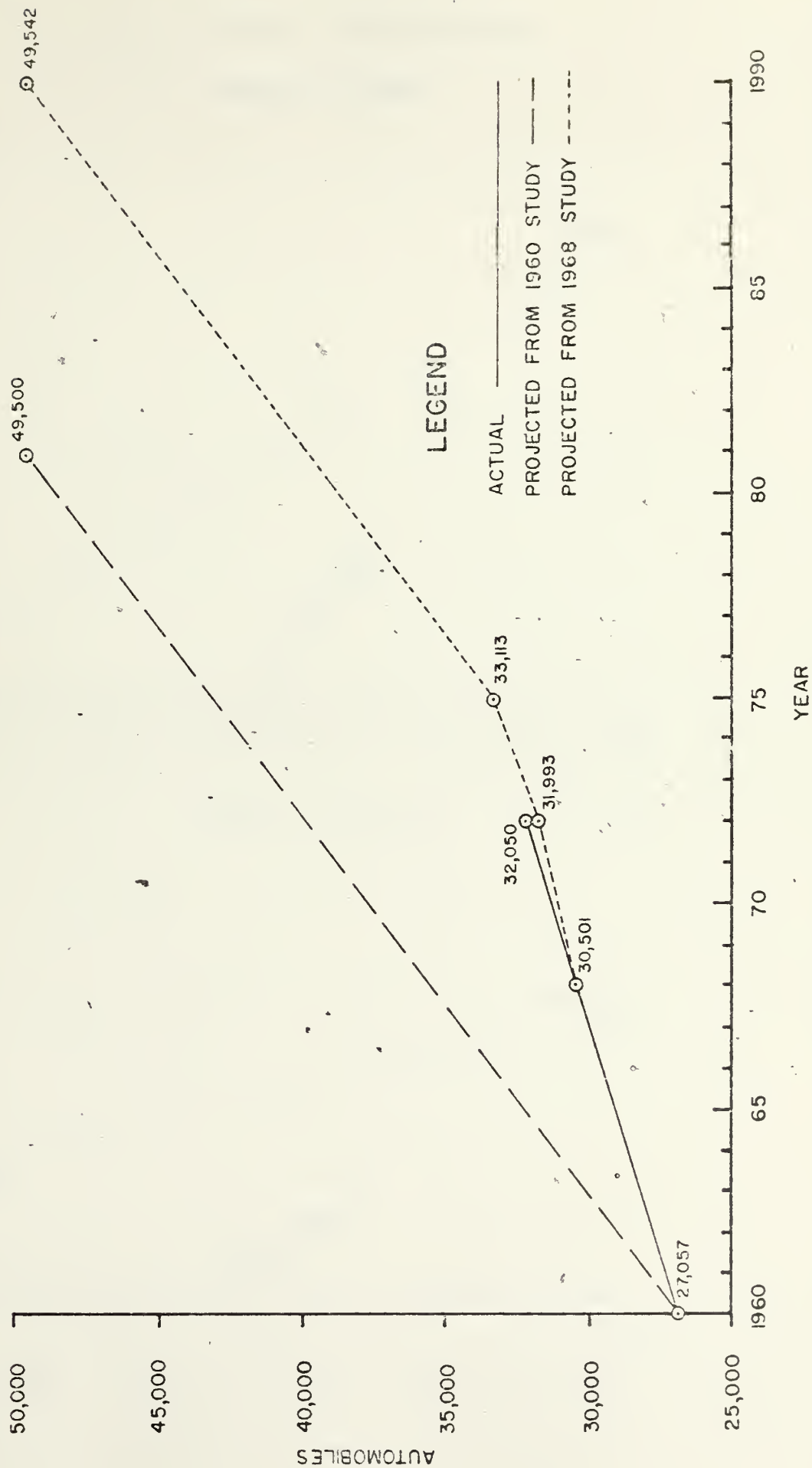
CASCADE COUNTY



STATE of MONTANA

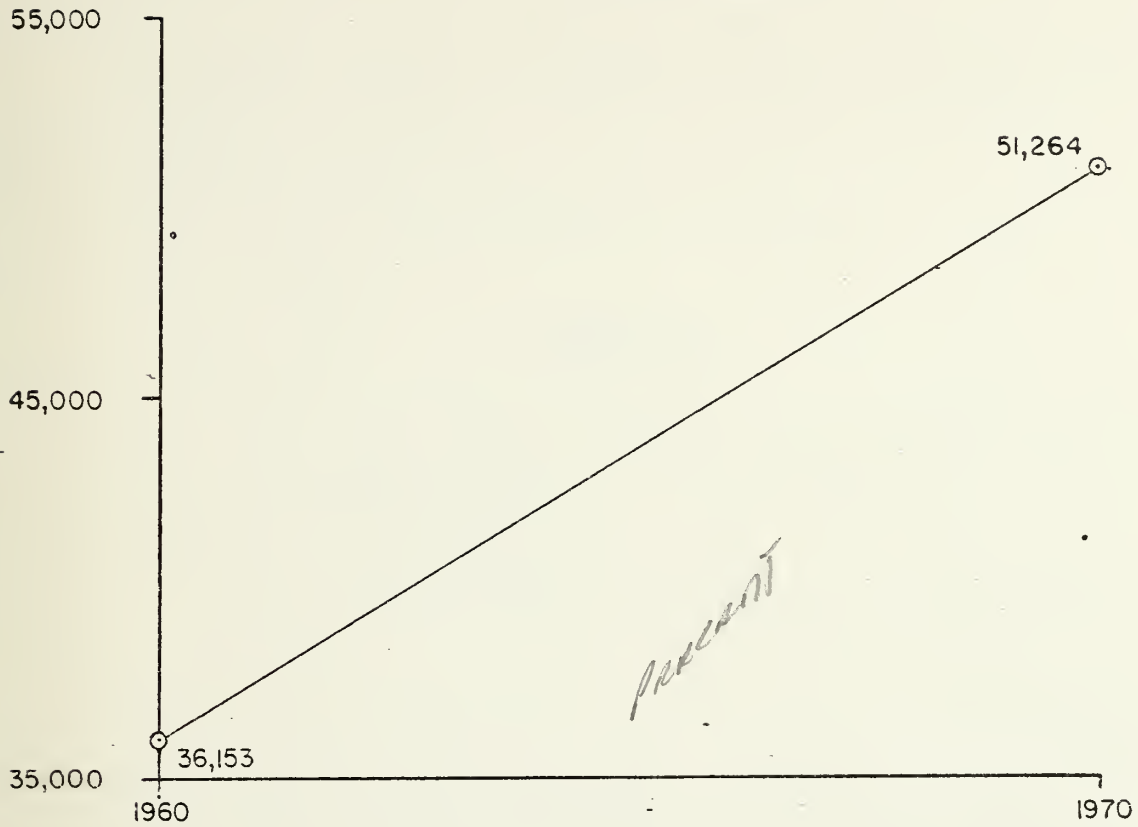


VEHICLE REGISTRATION

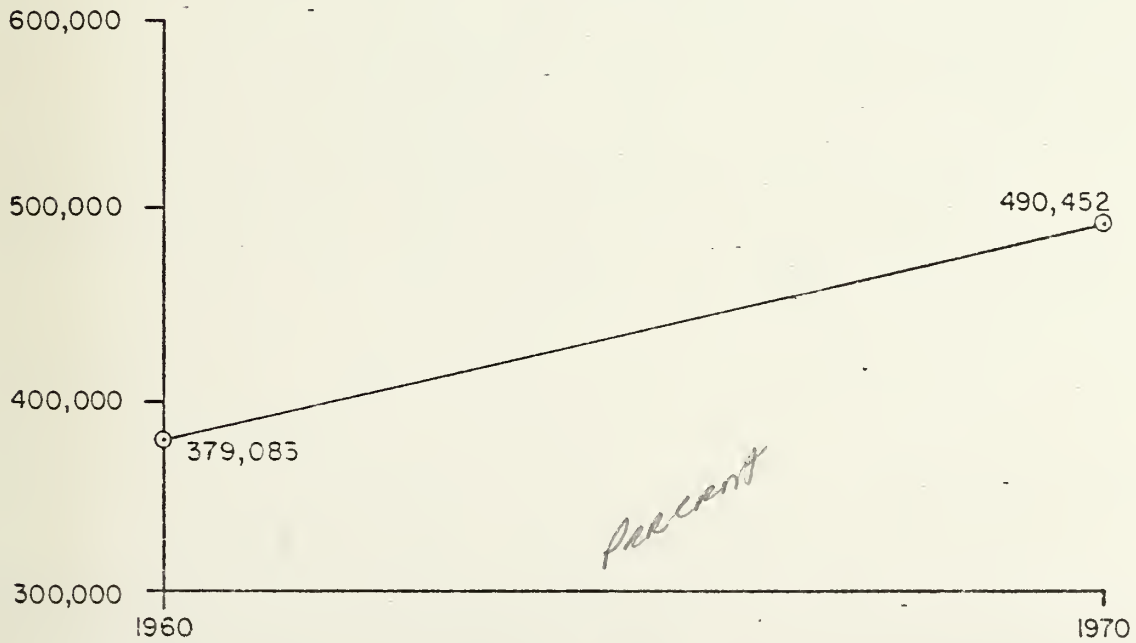


VEHICLE REGISTRATION

CASCADE COUNTY



STATE of MONTANA



Chapter III

NON-SOCIO-ECONOMIC INDICATORS

INTRODUCTION

Several other variable were also observed and/or monitored. These included Average Daily Traffic (ADT), Traffic Flow and High Accident Intersections. These variables are directly related to traffic trends. They serve as overviews of the network enabling the planners to spot deficiency areas.

These indicators have been investigated in some detail in the following pages. The monitoring efforts in this section are devoted to current happenings and trends.

Comparisons of Selected ADT's¹

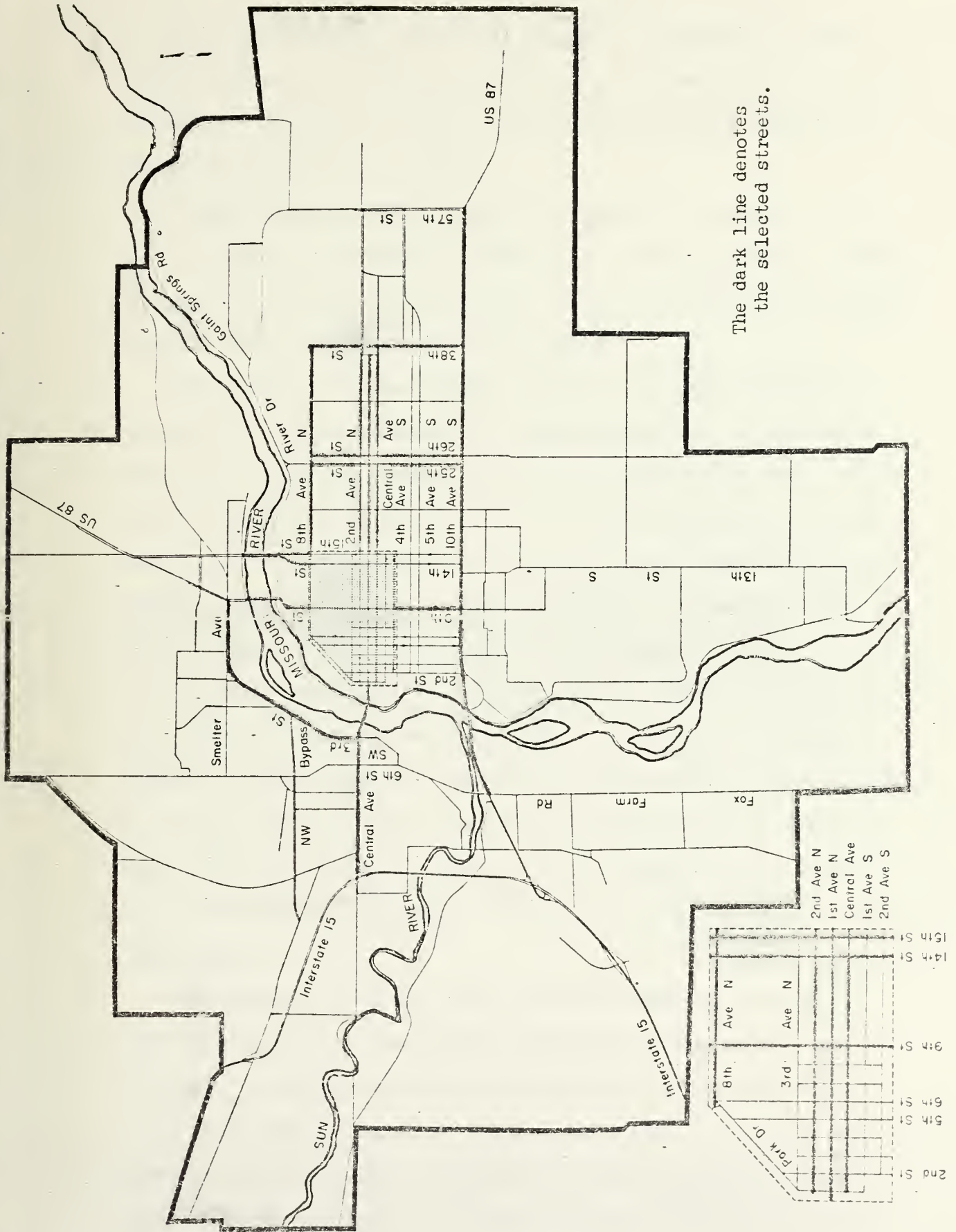
In order to contrast the general traffic trends for comparable count stations on selected streets, ADT's were computed and compared. This was carried out on each of the selected streets for the years 1967, 1971 and 1973. These years were chosen because their data was the most complete and most comparable as to count locations. Exceptions occurred on Central Avenue West and 26th Street North.

The streets selected are shown on the map in Figure III-1. These streets were selected on the basis of their volume of use, location as main corridors and comparability of data. These streets are all part of the network.

The comparison of these streets is found in Figure III-2 and Table III-1. This figure and table demonstrate the increases and decreases in traffic on each street and give a comparison of the traffic on the twelve streets. As can be readily seen, most streets are relatively stable; but several either increase or decrease extensively in traffic.

¹Average Daily Traffic.

A DIAGRAM OF SELECT STREETS



Figure

Table III-1 shows statistically the ADT's for each of the twelve selected streets. It further contains a list of those streets and their location. Through use of these figures a fairly accurate appraisal of the traffic trends can be achieved.

Figure III-2 graphically depicts the statistics involved in Table III-1. Through this media, the trends can be visually achieved. Further, a comparison of traffic on each street at count locations can be compared with the other selected streets quite readily.

The exceptions to the standard operation, as mentioned above, occurred at Central Avenue West and 26th Street North. In the case of Central Avenue West no comparable counts are available for 1967. Some further means of comparing the traffic on 26th is needed since the 1967 count reflects that point in time before 26th Street became part of the couplet, and comparable 1971 figure was available. Therefore, as a means of comparison, the 1972 count has been included.

It must be noted that in several places, the count locations were not identical. This may have reduced the accuracy of the comparisons. However, this reduction should not have been appreciable since all counts on the same street are within four blocks and are divided by neither a major traffic generator nor a major corridor. Therefore, the traffic should be relatively constant.

Traffic Flow

In conjunction with the chart in the ADT comparison showing traffic volumes for the years 1967, 1971 and 1973, Figure III-3 was developed. This map is a representation of the traffic volumes found on the major street network in the Great Falls area. The dotted pattern represents the 1968 totals as found in the Great Falls Transportation Plan. The 1971 increases are represented by the black areas bordering

VISUAL COMPARISON OF ADT'S

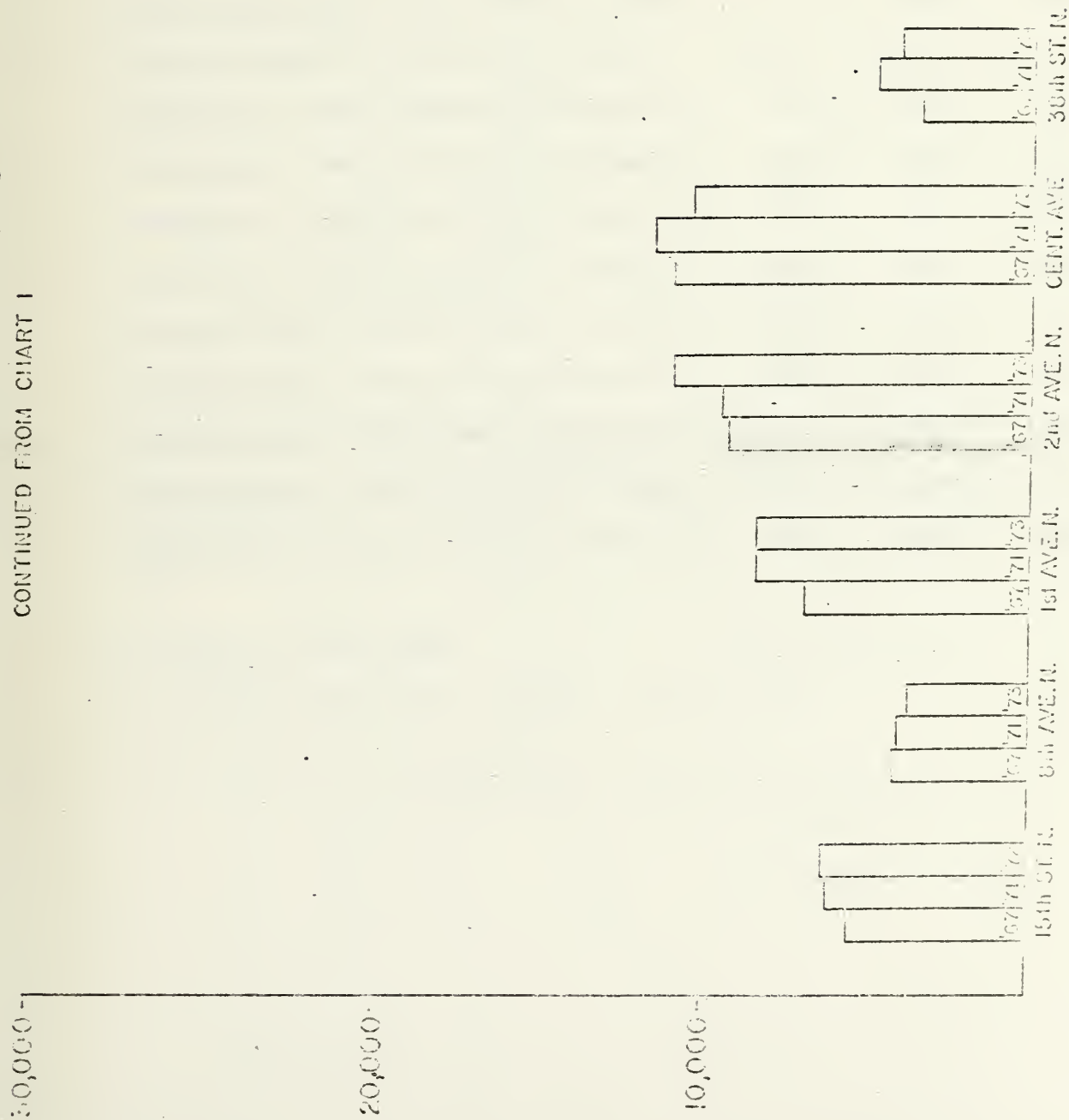
CHART 1



1) NO COUNT

2) NO DATA ON 26th FOR 1971; THUS, 1972 WAS USED

VISUAL COMPARISON OF ADT'S CONTINUED FROM CHART 1



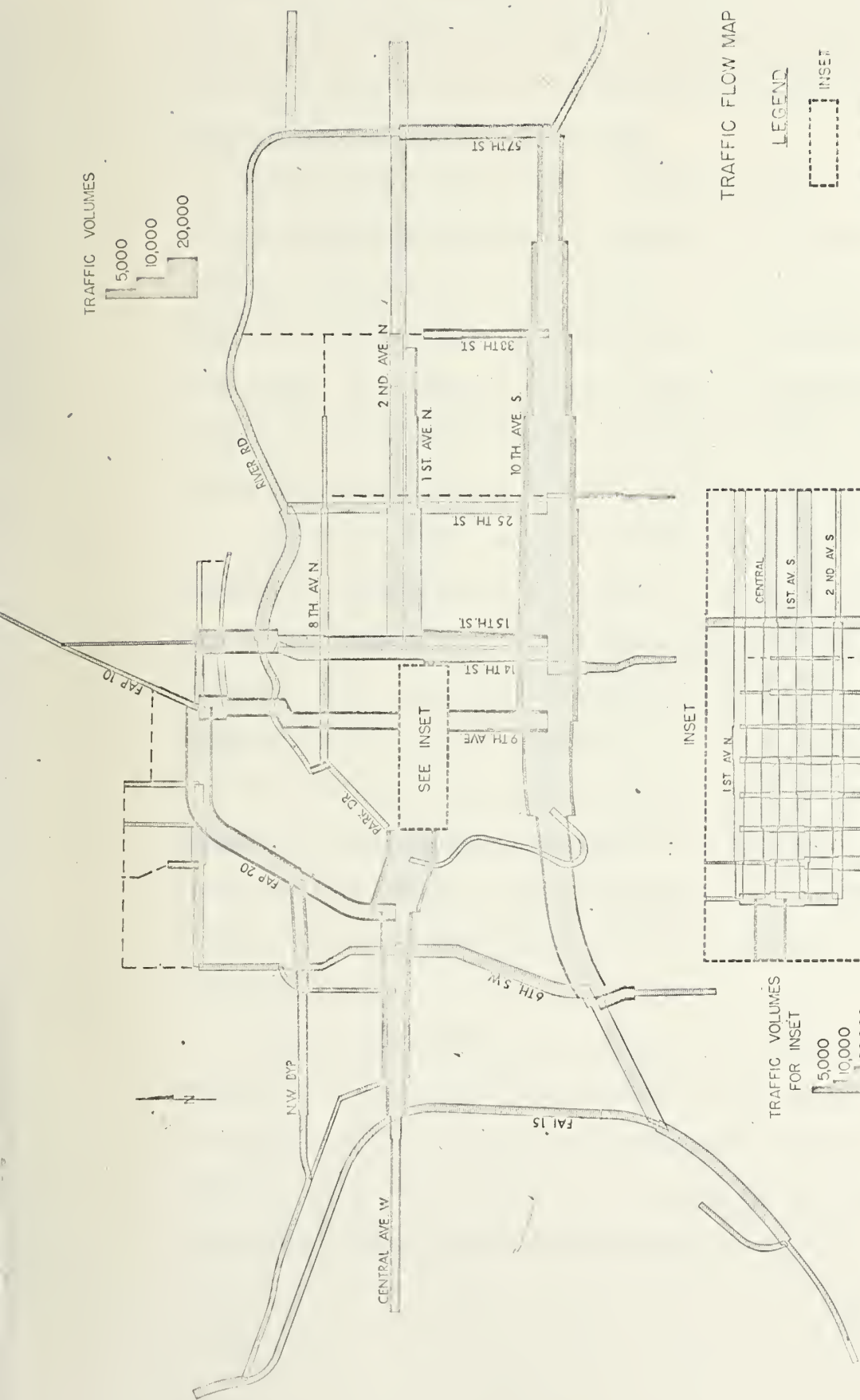
ADT'S FOR SELECTED STREETS

	<u>1967</u>	<u>1971</u>	<u>1973</u>
<u>FAP 40</u> between FAP 3 and Proposed FAP 5202	8634	9531	11,810
<u>Central Avenue West</u> west of 13th St. N.W.	¹	9620	8690
<u>10th Avenue South</u> between 9th and 10th St.	22,079	24,183	24,989
<u>26th Street</u> between 3rd and 5th Avenues No.	744	2424 ²	2304
<u>25th Street</u> between 4th and 5th Avenues No.	5462	3378	3120
<u>14th Street</u> between 3rd and 7th Avenues No.	5980	5800	6120
<u>15th Street</u> between 3rd and 7th Avenues No.	5433	6020	6210
<u>8th Avenue North</u> between 10th and 14th Sts.	4127	4070	3610
<u>1st Avenue North</u> between 10th and 14th Sts.	6788	8240	8210
<u>2nd Avenue North</u> between 10th and 12th Sts.	10,709	9490	9190
<u>Central Avenue</u> between 10th and 12th Sts.	10,922	11,450	10,490
<u>38th Street</u> between 3rd and 7th Avenues No.	3587	4880	4000

¹No comparable 1967 count.

²No comparable 1971 count; therefore, 1972 was used.

TRAFFIC VOLUMES



TRAFFIC FLOW MAP

LEGEND

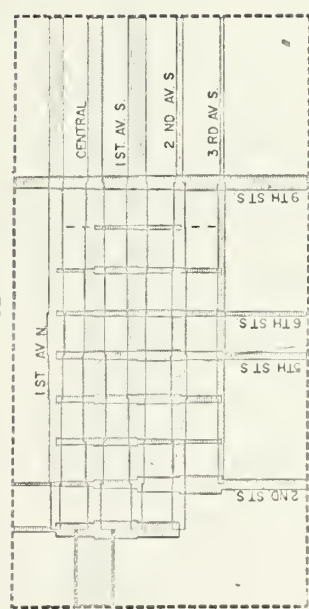


INSET

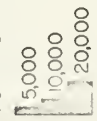


1971 1968 TRAFFIC

INSET



TRAFFIC VOLUMES FOR INSET



the dotted pattern. These 1971 figures were the most current data source available. They were gathered by the Planning and Research Bureau's Traffic Division during the summer of 1971.

High Accident Intersection Comparisons

Tables III-2 and III-3 show a comparison of the total accidents at the top twenty intersections for the years 1965 through 1967 with their respective totals for 1968 through 1972. As can be easily observed, there is a general change in ranking. But, in most cases, the number of accidents is rising at an overall rate of approximately seventeen percent. This shows that though the accident totals are shifting positions in the ranking, the general trend is upward.

Figure III-4 shows the rate of total accidents from 1968 to 1972 is increasing by approximately nine percent. Unlike the other sections of this review, these are all actual totals and thus there are no projections included. This, therefore, is a demonstration of actual trends rather than a comparison of projected to actual.

The section on Selected ADT's for this 1972 Review of the Great Falls Urban Area Transportation Study shows a five percent increase in traffic on the selected streets. This five percent trend compared to the nine percent overall accident increases, enforces the need to closely monitor the accident rate.

In conjunction with the other figure and tables pertaining to accident data, Figure III- and Table III-4 were developed. Figure III- is a comparison of the ten top intersections as compiled by the Great Falls Police Department with respect to the twenty top intersections found in the Great Falls Transportation Plan represented by arrows.

1000 HIGH ACCIDENT INTERSECTION COMPARISON: 1965-1967

1000
2000

<u>Intersection</u>	<u>Rank</u>	<u>Total 1965-67</u>	<u>Yearly Average</u>
10th Ave. So. and 9th St.	1	75	25
Central Ave. West & 3rd St.	2	69	23
10th Ave. So. and 14th St.	3	61	20
10th Ave. So. and 13th St.	4	59	20
Central Ave. and 3rd St.	5	59	20
Central Ave. West and 6th St.	6	52	17
10th Ave. So and 25th St.	7	52	17
Central Ave. and 4th St.	8	50	17
Central Ave. and 2nd St.	9	49	16
Central Ave. and 5th St.	10	49	16
First Ave. No. and River Drive	11	48	16
Central Ave. and 7th St.	12	48	16
10th Ave. So. and 2nd-3rd St.	13	47	16
Central Ave. and 9th St.	14	45	15
First Ave. No. and 9th St.	15	40	13
Smelter Ave. and 3rd St. N.W.	16	40	13
15th St. and River Drive	17	37	12
First Avenue North Bridge	18	35	12
10th Ave. So. and 15th Street	19	35	12
Central Ave. and Park Drive	20	34	11

Source:

Small, Cooley and Associates, Great Falls Transportation Plan, 1968 Update,
Great Falls, 1968.

Table III - 2

HIGH ACCIDENT INTERSECTION COMPARISON: 1968 - 1972

<u>Intersection</u>	<u>Rank</u>	<u>Total 1968-72</u>	<u>Yearly Average</u>
10th Ave. So. and 9th St.	1	166	33
10th Ave. So. and 13th St.	1	166	33
10th Ave. So. and 14th St.	3	145	29
Central Ave. and 9th St.	4	115	23
Central Ave. and 2nd St.	5	113	23
Central Ave. and 4th St.	6	112	22
Central Ave. West and 6th St.	7	102	20
10th Ave. So. and 15th St.	8	96	19
Central Ave. West and 3rd St.	9	95	19
Central Ave. and 5th Street	9	95	19
Central Ave. and 3rd Street	9	95	19
10th Ave. So. and 25th St.	12	94	19
Central Ave. and 7th Street	13	89	18
15th St. and River Drive	14	71	14
First Ave. No. and 9th St.	15	66	13
10th Ave. So. and 2nd-3rd St.	15	66	13
First Avenue North Bridge	17	64	13
Central Ave. and Park Drive	17	64	13
First Ave. No. and River Drive	19	61	12
Smelter Ave. and 3rd St. N.W.	20	44	9

Note: Equal totals are ranked the same. If two intersections have the same rank or equal amount of numbers are shipped before the next digit. (i.e. If there are two 1's, then the next number is 3 not 2).

Table III- ?

*Handy list for
comparisons*

TOTAL ACCIDENTS FOR THE YEARS 1968-1972

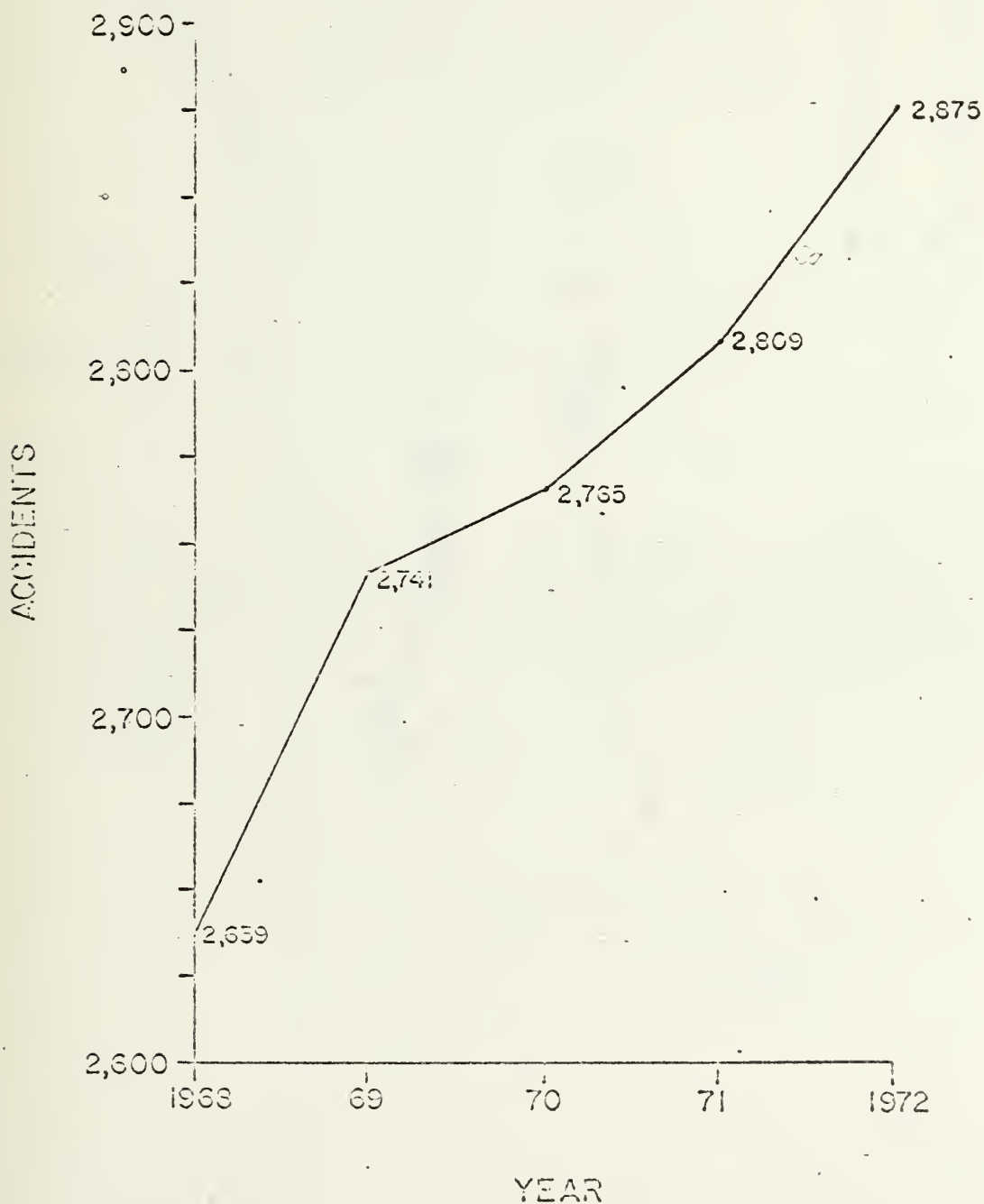


Figure 10

III -

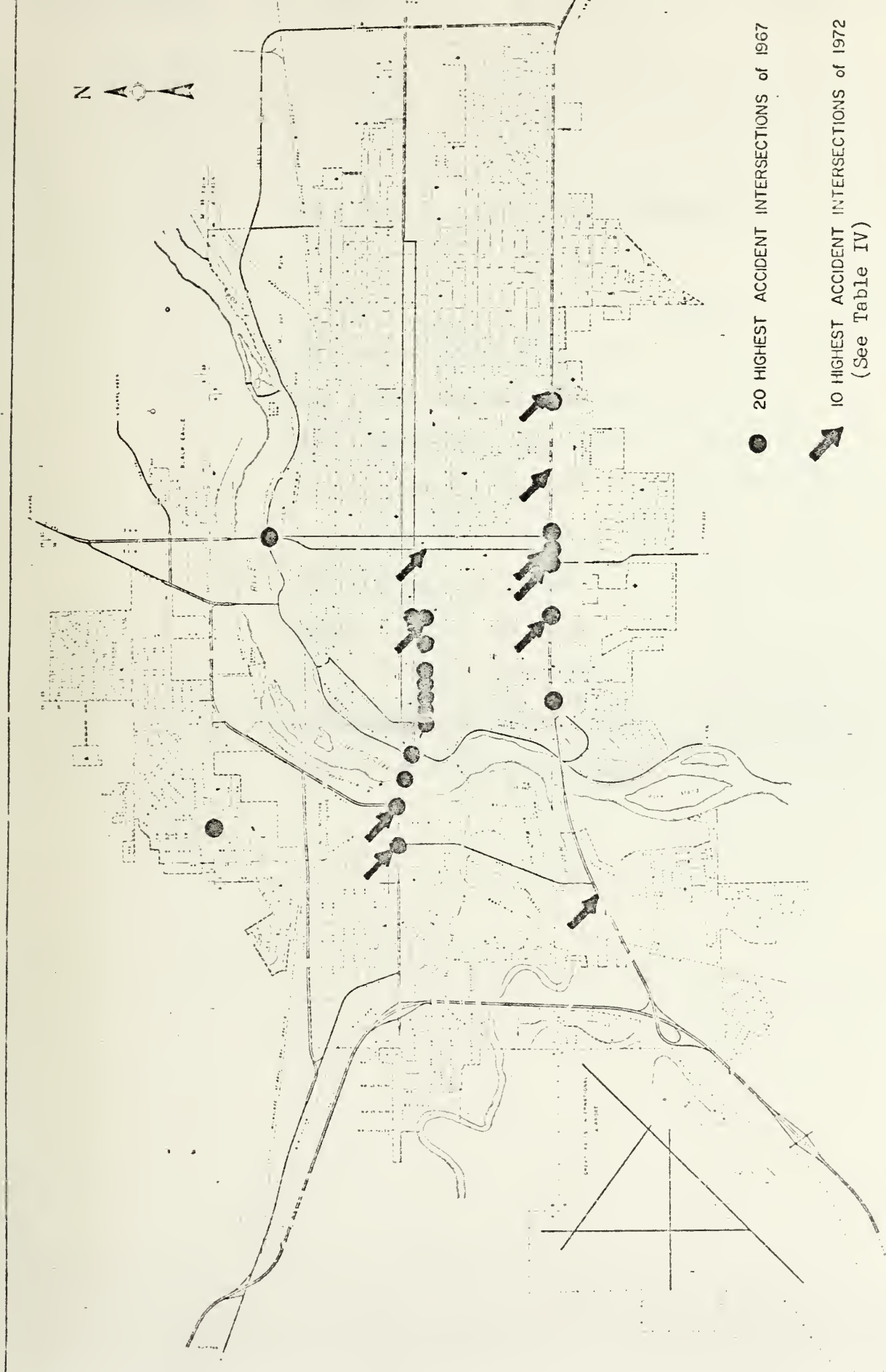


Figure 11-7

TEN HIGHEST ACCIDENT INTERSECTIONS 1972

	<u>1972</u>
10th Avenue South & 9th Street	39
10th Avenue South & 13th Street	31
10th Avenue South & 14th Street	29
U.S. 91 & Fox Farm Road	34
Central West & 6th Street	25
Central West & 3rd Street	18
Central Avenue & 9th Street	20
Central Avenue & 14th Street	17
10th Avenue South & 26th Street	19
10th Avenue South & 20th Street	12

Chapter IV

IMPROVEMENTS AND FINANCING

Improvement Areas

Figure IV-1 illustrates the projects which have been selected for the Great Falls Urban Area Short Range Plan. This plan pertains to those improvements found in the 1968 Updated Long Range Plan which, at this time, have been let, scheduled for letting, or are in the program phase, or pre-program phase for letting in the near future. An important facet in the Short Range Plan is the TOPICS Program.

Topics Projects are on a short range schedule. These projects are used for improving safety and capacity at a minimum cost. The above mentioned projects are separately depicted by symbols which are annotated in the legend of Figure IV-1.

Trend Analysis of Local Road Financing

Capital is needed to maintain, improve and build roadways. This section concerns itself with that capital. Figure IV-2 shows a trend analysis of county and local funds for the years 1968 through 1972. Each of the five years listed is depicted in terms of three bars.

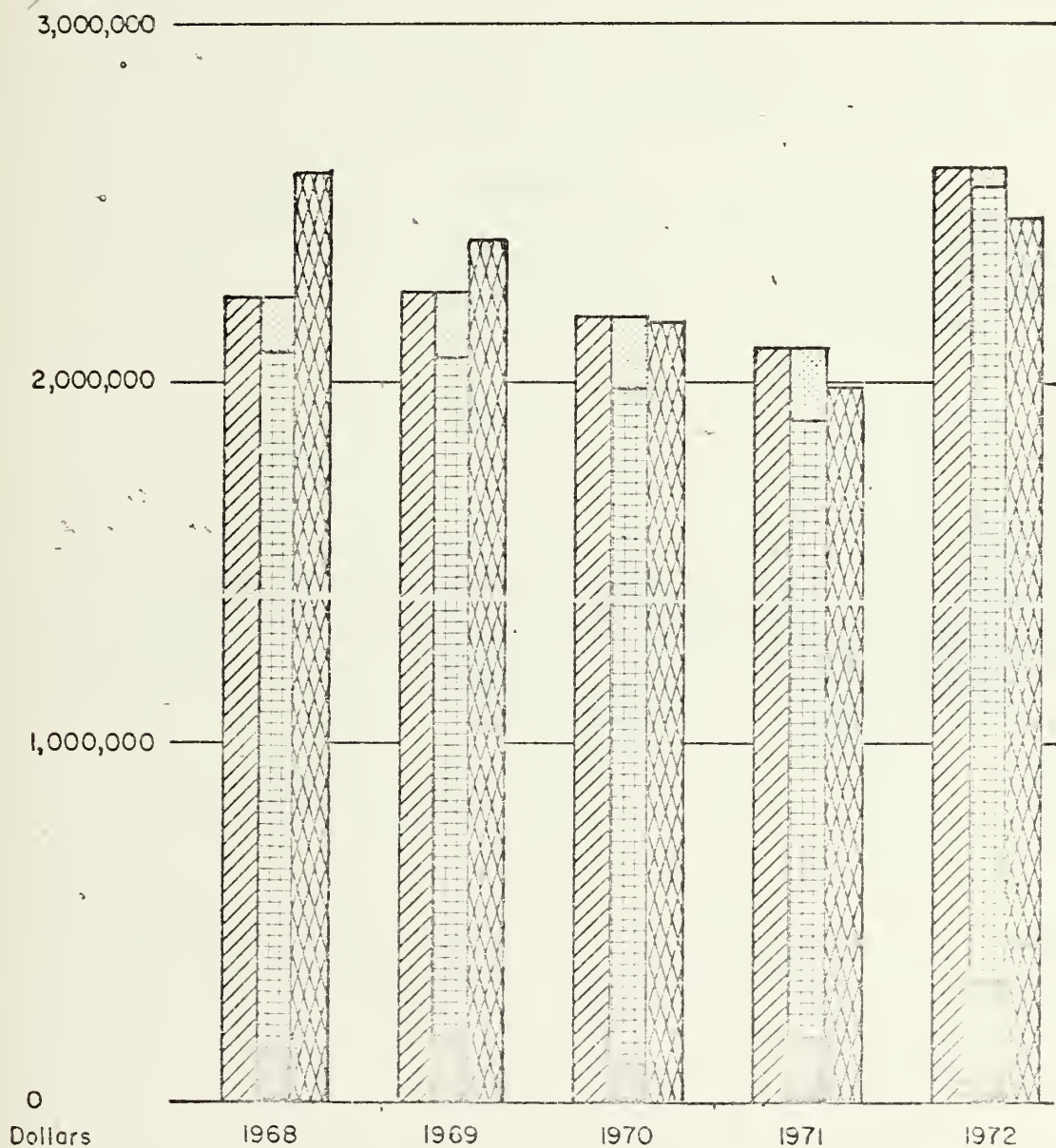
The first bar represents the total funds available. That is, it stands for the total amount of capital available locally for broad financing in that particular year.

The second bar represents what was done with the available capital during that year. This is divided into three sections: Year End Balance, Construction of Capital Improvements, Remaining Expenditures. Year End Balance is that capital remaining after all expenditures have been made. Construction of Capital Improvements represents that that capital expended for the building of new facilities. Remaining Expenditures represents all the capital expended on overhead, maintenance, etc.

The third bar represents the road related indebtedness of the city. This stems from money owed on bonds, loans, etc. This section is the same debt over all the years. The graphs show the increases and decreases in this indebtedness over the years. The important point brought out by the graph is the considerable reduction in Debts Outstanding over the five year span.

TREND ANALYSIS OF LOCAL ROAD FINANCING

1968-1972



LEGEND

Total Funds Available



Remaining Expenditures



Construction of Capital Improvements



Year End Balance



Debts Outstanding



Chapter V

S U M M A R Y

Land Use

Land use changes and controls have a great impact on traffic. The amount of traffic differs from residential to commercial areas, etc. This makes it imperative that the study area be totally zoned as soon as possible to insure adequate transportation facilities are planned for the future. In this way, the hit and miss, jigsaw street network that occurs in many cities can be avoided.

With the population of Great Falls reaching over one hundred thousand by 1990, the necessity of a well-planned, viable transportation system, meeting all the demands of the greater population, becomes an imperative need. Only through proper planning and as complete a knowledge as possible of future development can these future needs be met. This encourages both constant monitoring and zoning.

Socio-Economic Indicators

The point that should most come to mind in reading this review is the density figure problem. The average figure used in 1960 and again in 1968 was approximately 3.4 people per dwelling unit. This figure will produce higher projections that are totally valid. The 1970 Census data reveals that a 3.05 to 3.1 persons per dwelling unit figure overall. The socio-economic indicators should be closely monitored in relation to the density factor.

Traffic projections and traffic modeling are greatly affected by the socio-economic indicators. Employment, population, student enrollment, and employment all in themselves generate trips. Vehicle registration establishes the number of vehicles in constant use of the street, as the total for each of these rises so does the amount of traffic.

Non-Socio-Economic Indicators

Traffic flow and selected ADT's demonstrate the actual traffic and increase in traffic within the study area. This gives at least an overview of the direction the Traffic Movement Trend is taking.

Accident data portrays the ability of the network to safely move traffic. From this data an account of the adequacy of the network can eventually be made.

Improvements and Financing

This section portrayed what the city has accomplished and how its funds are used. It is imperative that a knowledge of funding be available. This can help dictate priorities in short range planning.

Conclusion

The purpose of this review was to establish the available data. It is the responsibility of those in policy making positions to decide what now will be done with this data. Their decisions and interpretations are the most valuable result of this document. The Great Falls Transportation Plan-Routine Review is merely a tool in their hands.

A P P E N D I X

TABLE A-1

GREAT FALLS CITY-COUNTY PLANNING BOARD
TRANSPORTATION STUDY UPDATE

<u>Zone</u>	<u>1968 Density Factor</u>	<u>1968 D.U.</u>	<u>1968 Population</u>	<u>1972 Density Factor</u>	<u>1972 D.U.</u>	<u>1972 Population</u>	<u>1968 Autos/ D.U.</u>	<u>1968 Autos/ Zone</u>	<u>1975 Autos/ D.U.</u>	<u>1975 Autos/ Zone</u>
00100										
00200	1.38	86	119	1.145	133	152	.91	80.8	1.0	68
00300	1.99	108	334	.822	169	139	.58	101.0	0.8	109
00400	1.33	78	104	1.255	199	250	.25	20.2	0.5	34
00500	2.10	29	61	1.875	16	30	2.70	80.8	0.8	27
01100	3.90	8	31	4.555	9	41	--	--	--	--
01200	--	--	--	1.913	23	44	--	--	--	--
01300	1.93	968	1868	1.629	926	1509	.73	727.2	0.9	874
01400	2.71	813	2203	2.239	798	1787	1.08	909.5	1.1	954
02100	--	--	--	--	--	--	--	--	--	--
02200	1.53	118	181	2.857	41	118	--	--	--	--
03100	2.71	488	1322	2.532	437	1233	.72	363.6	0.8	372
03200	3.16	684	2161	2.419	647	1565	.57	404.0	0.8	496
03300	3.75	31	116	2.737	37	102	1.91	60.6	--	--
10100	2.90	27	78	2.034	29	59	1.50	41.6	1.2	17
10200	3.2	71	227	1.366	32	112	1.21	124.8	1.5	72
10300	2.73	827	2139	2.725	731	2074	.83	707.2	1.0	909
10400	3.23	576	1860	2.926	533	1706	1.23	728.0	1.3	768

GREAT FALLS CITY-COUNTY PLANNING BOARD

[illegible]

GREAT FALLS CITY-COUNTY PLANNING BOARD
TRANSPORTATION STUDY UPDATE

<u>Zone</u>	<u>1968 Density Factor</u>	<u>1968 D.U.</u>	<u>1968 Population</u>	<u>1972 Density Factor</u>	<u>1972 D.U.</u>	<u>1972 Population</u>	<u>1968 Autos/ D.U.</u>	<u>1968 Autos/ Zone</u>	<u>1975 Autos/ D.U.</u>	<u>1975 Autos/ Zone</u>
13200	4.13	370	1528	3.523	398	1402	1.57	600.3	1.7	639
13300	4.0	5	20	--	--	--	--	--	--	--
13400	4.0	4	16	3.000	5	15	--	--	--	--
13500	4.17	331	1380	3.524	338	1191	2.24	795.9	1.8	614
13600	--	--	--	3.000	1	3	--	--	--	--
14100	--	--	--	6.000	1	6	--	--	--	--
14200	3.2	1	3	3.000	1	3	--	--	1.2	--
14300	2.8	7	30	1.714	7	12	--	--	1.6	--
15100	--	--	--	6.000	1	6	--	--	1.3	--
15200	--	--	--	--	--	--	--	--	--	--
15300	4.28	375	1605	1.711	512	1047	1.51	585.8	1.6	646
15400	4.0	19	76	4.000	20	80	2.00	40.4	1.6	54
16100	4.0	542	2168	4.952	1691	8373	1.44	807.3	1.5	815
16200	3.6	841	3028	Malmstrom AFB			1.81	2235.1	1.9	2301
17100	4.25	121	514	3.418	165	564	1.90	161.6	1.4	279
17200	4.47	457	2043	4.595	470	1908	1.84	864.8	1.8	835
17300	--	--	--	--	--	--	--	--	--	--
17400	4.26	562	2394	4.006	598	2396	1.60	929.2	1.7	978
17500	4.3	234	1006	2.373	453	1075	1.51	363.6	1.6	374

GREAT FALLS CITY-COUNTY PLANNING BOARD
TRANSPORTATION STUDY UPDATE

<u>Zone</u>	<u>1968 Density Factor</u>	<u>1968 D.U.</u>	<u>1968 Population</u>	<u>1972 Density Factor</u>	<u>1972 D.U.</u>	<u>1972 Population</u>	<u>1968 Autos/ D.U.</u>	<u>1968 Autos/ Zone</u>	<u>1968 Autos/ D.U.</u>	<u>1975 Autos/ Zone</u>
20100	4.77	337	1607	3.485	424	1478	1.80	626.2	1.8	704
20200	3.02	238	491	1.962	261	512	.91	237.5	1.3	202
20300	3.0	48	145	1.240	50	62	(1.0)	--	1.2	86
20400	3.2	5	16	3.000	5	15	(1.2)	--	--	--
20500	4.12	37	152	2.853	34	97	1.05	40.4	1.2	20
20600	4.12	746	3074	3.250	859	2792	1.18	909.4	1.3	1026
20700	3.2	114	365	1.476	126	186	1.25	148.4	1.3	224
20800	3.2	109	347	1.135	131	177	.85	95.4	1.2	169
20900	3.2	47	150	3.264	53	173	1.63	79.5	1.5	86
21100	2.0	50	100	1.960	50	98	.84	--	1.0	50
21200	3.2	22	70	6.000	4	24	1.74	40.4	--	--
21300	3.2	200	640	1.990	321	639	.79	161.6	1.3	406
21400	--	--	--	3.000	6	18	--	--	1.2	58
21500	--	--	--	3.000	1	3	--	--	1.2	--
21600	--	--	--	--	--	--	--	--	--	--
21700	4.2	229	962	1.758	327	575	1.80	424.2	1.8	499
21800	--	--	--	--	--	--	--	--	--	--
21900	3.5	88	308	3.622	135	489	1.78	161.6	1.2	168

GREAT FALLS CITY-COUNTY PLANNING BOARD
TRANSPORTATION STUDY UPDATE

<u>Zone</u>	<u>1968 Density Factor</u>	<u>1968 D.U.</u>	<u>1968 Population</u>	<u>1972 Density Factor</u>	<u>1972 D.U.</u>	<u>1972 Population</u>	<u>1968 Autos/ D.U.</u>	<u>1968 Autos/ Zone</u>	<u>1968 Autos/ D.U.</u>	<u>1975 Autos/ Zone</u>
22100	--	--	--	--	--	--	--	--	--	--
22200	--	--	--	3.000	1	3	--	--	1.2	--
22300	3.2	1	3	3.000	1	3	--	--	1.2	--
23100	3.2	37	118	2.095	42	88	1.58	60.0	1.5	38
24100	3.2	52	166	3.463	54	187	1.11	60.0	1.2	68
24200	--	--	--	3.000	1	--	--	--	1.0	--
24300	3.2	204	653	2.881	211	608	.78	165.0	1.0	203
24400	3.2	17	54	2.909	22	64	1.18	20.0	1.2	20
30100	3.0	9	27	2.900	10	29	1.67	15.0	1.7	17
31100	3.0	3	9	3.000	3	9	(1.0)	--	--	--
31200	3.0	3	9	2.250	4	9	--	--	--	--
32100	3.36	210	706	2.958	238	704	.93	202.0	1.2	252
33100	3.2	3	10	3.823	2	8	(1.2)	--	1.3	8
33200	3.58	229	820	2.644	349	923	1.88	444.4	1.8	517
33300	--	--	--	--	--	--	--	--	--	--
33400	3.4	20	68	4.096	31	127	2.86	60.0	1.8	119
33500	3.58	178	637	4.421	306	1353	1.86	343.4	1.3	533
33600	3.2	17	54	2.857	21	60	(1.2)	--	1.4	69

GREAT FALLS CITY-COUNTY PLANNING BOARD
TRANSPORTATION STUDY UPDATE

Zone	1968 Density Factor	1968 D.U.	1968 Population	1972 Density Factor	1972 D.U.	1972 Population	1968 Autos/ D.U.	1968 Autos/ Zone	1968 Autos/ D.U.	1975 Autos/ Zone
34100	3.2	3	10	3.000	3	9	(1.2)	--	1.3	33
34200	3.2	14	45	4.476	21	94	2.14	30.0	2.0	240
34300	3.2	2	6	6.000	2	12	(1.2)	--	1.3	5
40100	3.2	3	10	3.000	3	9	(1.4)	--	1.4	7
40200	3.2	40	128	4.130	46	190	1.83	75.0	1.8	70
41100	3.2	2	6	3.000	3	9	1.2	--	1.2	2
41200	4.0	22	88	4.579	19	87	.87	20.2	1.6	34
42100	3.5	169	592	3.204	181	580	2.66	462.0	1.8	331
42200	3.91	306	1196	2.619	376	985	1.46	462.0	1.5	276
43100	3.90	451	1759	3.156	501	1581	1.22	565.6	1.4	655
43200	3.87	306	1184	2.089	439	914	1.28	404.0	1.4	469
43300	3.64	18	66	2.500	18	45	1.05	20.2	1.0	0
43400	--	--	--	--	--	--	--	--	--	--
43500	--	--	--	--	--	--	--	--	--	--
43600	3.0	6	18	5.667	6	34	(1.2)	--	1.2	--
43700	3.15	10	32	3.000	3	9	---	80.8	--	--
44100	3.37	113	381	2.595	131	340	.86	101.0	1.2	116
44200	3.16	401	1267	2.847	424	1207	1.22	505.0	1.2	529

GREAT FALLS CITY-COUNTY PLANNING BOARD
TRANSPORTATION STUDY UPDATE

<u>Zone</u>	<u>1968 Density Factor</u>	<u>1968 D.U.</u>	<u>1968 Population</u>	<u>1972 Density Factor</u>	<u>1972 D.U.</u>	<u>1972 Population</u>	<u>1968 Autos/ D.U.</u>	<u>1968 Autos/ Zone</u>	<u>1968 Autos/ D.U.</u>	<u>1975 Autos/ Zone</u>
44300	--	--	--	--	--	--	--	--	--	--
44400	3.62	32	116	3.176	34	108	2.45	80.8	1.2	12
44500	3.71	110	408	4.172	116	484	2.48	282.8	1.4	161
44600	3.5	133	466	3.089	146	451	.88	121.2	1.2	160
50100	4.0	16	64	3.918	16	63	.67	42.8	1.2	23
50200	4.6	315	1449	3.718	348	1294	1.58	513.6	1.6	550
51100	3.2	4	13	3.000	4	12	(1.0)	--	1.0	4
51200	3.2	1	3	3.000	1	3	(1.0)	--	1.0	2
52100	3.2	25	80	5.514	35	193	.77	20.2	1.0	57
52200	4.20	690	2898	4.020	718	2891	1.47	1050.4	1.6	1134
52300	--	--	--	3.000	1	3	--	--	--	--
52400	--	--	--	--	--	--	--	--	--	--
52500	4.2	768	3226	3.989	938	3742	1.43	1131.2	1.5	1294
52600	--	--	--	3.000	2	6	--	--	--	--
53100	4.28	141	603	4.028	143	576	1.94	282.8	1.6	232
53200	--	--	--	3.000	1	3	--	--	--	--
53300	--	--	--	3.000	2	6	--	--	--	--
53400	3.2	1	3	3.000	3	9	--	--	--	--

GREAT FALLS CITY-COUNTY PLANNING BOARD
TRANSPORTATION STUDY UPDATE

<u>Zone</u>	<u>1968 Density Factor</u>	<u>1968 D.U.</u>	<u>1968 Population</u>	<u>1972 Density Factor</u>	<u>1972 D.U.</u>	<u>1972 Population</u>	<u>1968 Autos/ D.U.</u>	<u>1968 Autos/ Zone</u>	<u>1968 Autos/ D.U.</u>	<u>1975 Autos/ Zone</u>
53500	--	--	--	--	--	--	--	--	--	--
53600	3.16	1	3	5.000	1	5	--	--	--	--
53700	3.2	4	13	5.000	10	50	5.0	20.2	--	--
54100	3.2	3	10	3.333	3	10	(1.0)	--	--	--
54200	3.2	403	1290	2.818	395	1113	1.51	627.0	1.5	693
55100	2.8	36	101	2.763	38	105	2.19	80.8	2.0	72
Subtotal	22,305	77,314		24,790		74,771		29,771		33,015
	<u>*949</u>	<u>*1,570</u>						<u>*730</u>		<u>*98</u>
Totals as in 1968 Update	23,354	78,884						30,501		33,113

*The approximate numbers not counted in 1968, attributed to Malmstrom Air Force Base.

GREAT FALLS CITY-COUNTY PLANNING BOARD

TRANSPORTATION STUDY UPDATE

Zone	1972 D U's	1972 Autos/ Zone	1972 Autos/ DU	1968 Students DU	1968 Students Zone	1972 Students DU	1972 Students Zone	1975 Students DU	1975 Students Zone	1968 Emp./ DU	1968 Emp./Zone By Res.	1972 Emp./ DU	1972 Emp./Zone By Res.	1975 Emp./ DU	1975 Emp./Zone By Res.
00100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
00200	133	121	.91	--	--	.10	13	--	--	.68	59	.50	67	.65	44
00300	169	98	.58	--	--	.10	17	--	--	1.10	185	.50	85	1.05	143
00400	199	50	.25	.54	42	.46	92	.56	38	.53	26	.66	131	.35	24
00500	16	43	2.70	--	--	.44	7	--	--	.41	12	.80	13	.41	14
01100	9	7	.73	1.25	10	.24	2	--	--	1.50	12	.69	6	--	--
01200	23	17	.72	--	--	.24	5	--	--	--	--	.69	16	--	--
01300	926	676	.73	.34	329	.24	222	.39	379	.83	801	.69	639	.94	924
01400	798	862	1.08	.60	487	.24	192	.62	537	1.12	910	.69	550	1.61	1,003
02100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
02200	41	30	.72	.48	56	.46	19	.50	6	.59	70	.66	27	.58	7
03100	487	351	.72	.52	255	.46	224	.52	242	.84	412	.66	321	.84	392
03200	647	369	.57	.77	527	.46	298	.78	484	.89	609	.66	427	.90	559
03300	37	71	1.91	1.26	39	.84	31	1.07	16	1.29	39	1.12	41	1.07	16
10100	29	44	1.50	.74	20	.78	23	.79	11	1.44	39	.88	26	1.50	21
10200	82	99	1.21	.63	45	.91	75	.65	31	1.28	91	.94	77	1.31	63
10300	761	632	.83	.85	706	.78	594	.99	900	.88	727	.88	670	1.02	927
10400	583	717	1.23	.76	435	.91	531	.77	456	1.24	712	.94	548	1.26	747
10500	543	776	1.43	1.20	622	.91	494	1.26	692	1.45	755	.94	510	1.53	841

TRANSPORTATION STUDY UPDATE

[illegible]

GREAT FALLS CITY-COUNTY PLANNING BOARD

TRANSPORTATION STUDY UPDATE

Zone	1972 D.U.'s	1972 Autos/ Zone	1972 Autos/ DU	1968 Students DU	1968 Students Zone	1972 Students DU	1972 Students Zone	1975 Students DU	1975 Students Zone	1968 Emp./ DU	1968 Emp./Zone By Res.	1972 Emp./ DU	1972 Emp./Zone By Res.	1975 Emp./ DU	1975 Emp./Zone By Res.
13400	5	15	2.00	1.25	5	1.89	9	--	--	1.50	6	1.26	6	--	--
13500	338	757	2.24	1.50	498	1.89	639	1.48	505	1.74	576	1.26	426	1.17	583
13600	1	1	--	--	--	1.89	2	--	--	--	--	1.26	1	--	--
14100	1	1	--	--	--	.93	1	--	--	--	--	1.10	1	--	--
14200	1	1	--	1.00	1	.93	1	--	--	1.00	1	1.10	1	--	--
14300	7	7	2.24	1.29	9	.93	7	--	--	1.71	12	1.10	8	--	--
15100	1	1	--	--	--	.93	1	--	--	--	--	1.10	1	--	--
15200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
15300	612	924	1.51	1.51	565	.93	569	1.52	616	1.22	456	1.10	673	1.23	497
15400	20	40	2.00	.58	11	.93	19	.56	19	2.32	44	1.10	22	2.29	78
16100	823	3,060	1.44	1.23	666	1.11	1,877	1.23	667	1.60	867	1.56	2,570	1.60	869
16200	868	--	1.81	1.11	930	--	--	1.20	930	1.44	2,691	--	--	1.45	2,692
17100	165	215	1.30	.98	119	1.48	244	.97	194	2.62	317	1.28	211	2.59	515
17200	470	265	1.84	1.96	895	1.48	696	1.84	854	1.36	621	1.28	601	1.28	593
17300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17400	598	957	1.60	1.46	821	1.48	885	1.41	809	1.66	934	1.28	765	1.50	920
17500	453	684	1.51	1.23	288	1.48	670	1.17	274	1.15	270	1.28	580	1.10	257
20100	424	763	1.80	1.50	505	.84	356	1.38	545	.84	619	1.12	475	1.70	668
20200	261	238	.91	.61	144	.84	219	.90	139	.35	17	1.12	292	.35	55

GREAT FALLS CITY-COUNTY PLANNING BOARD

TRANSPORTATION STUDY UPDATE

Zone	1972 D U's	1972 Autos/ %Zone	1972 Autos/ DU	1968 Students DU	1968 Students Zone	1972 Students DU	1972 Students Zone	1975 Students DU	1975 Students Zone	1968 Emp./ DU	1968 Emp./Zone By Res.	1972 Emp./ DU	1972 Emp./Zone By Res.	1975 Emp./ DU	1975 Emp./Zone By Res.
20300	50	50	1.00	.96	46	.84	42	.99	71	1.17	55	1.12	56	1.22	88
20400	5	6	1.20	1.00	5	.84	4	--	--	1.20	--	1.12	6	--	--
20500	34	36	1.50	2.08	77	.84	29	1.94	33	.68	25	1.12	38	.65	11
20600	159	1,014	1.18	1.48	1,107	.84	722	1.44	1,136	1.39	1,039	1.12	926	1.35	1,067
20700	126	158	1.25	1.05	120	.84	106	1.12	192	.98	112	1.12	141	1.04	179
20800	131	111	.85	.96	105	.84	110	1.00	141	1.17	125	1.12	147	1.19	167
20900	53	86	1.63	1.36	64	.84	45	1.35	77	.96	45	1.12	59	.96	55
21100	50	42	.84	.62	31	.66	33	.62	31	--	38	1.05	53	.76	38
21200	4	7	1.74	1.00	22	.66	3	--	--	1.91	27	1.05	4	--	--
21300	321	254	.79	.64	128	.66	212	.66	206	1.92	384	1.05	337	1.98	618
21400	6	--	1.75	--	--	.66	4	1.02	49	--	--	1.05	6	1.27	61
21500	1	--	1.78	--	--	.66	1	--	--	--	--	1.05	1	--	--
21600	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
21700	327	589	1.80	.79	182	.66	216	.75	209	1.71	391	1.05	343	1.62	450
21800	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
21900	135	240	1.78	1.40	123	.66	89	1.40	196	1.75	123	1.05	141	1.40	196
22100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
22200	1	--	--	--	--	.66	1	--	--	--	--	1.05	1	--	--
22300	1	--	--	1.00	1	1.69	2	--	--	1.00	1	1.12	1	--	--

GREAT FALLS CITY-COUNTY PLANNING BOARD

TRANSPORTATION STUDY UPDATE

Zone	1972 D U's	1972 Autos/ Zone	1972 Autos/ DU	1968 Students DU	1968 Students Zone	1972 Students DU	1972 Student Zone	1975 Students DU	1975 Students Zone	1968 Emp./ DU	1968 Emp/Zone By Res.	1972 Emp./ DU	1972 Emp/Zone By Res.	1975 Emp./ DU	1975 Emp/Zone By Res.
23100	42	66	1.58	1.00	37	1.69	71	1.00	25	1.22	45	1.12	47	1.20	30
24100	54	60	1.11	1.15	60	1.69	91	1.77	101	.73	38	1.12	60	.77	44
24200	1	--	--	--	--	1.69	2	--	--	--	--	1.12	1	--	--
24300	211	165	.78	.91	186	1.69	357	.91	185	1.23	234	1.12	236	1.15	233
24400	22	26	1.18	.53	9	1.69	37	.53	9	2.12	36	1.12	25	2.12	36
30100	10	17	1.67	.78	7	1.69	17	.80	8	1.56	14	1.12	11	1.50	15
31100	3	3	1.00	1.00	3	1.69	5	--	--	1.33	4	1.12	3	--	--
31200	4	--	1.00	1.00	3	1.69	7	--	--	1.33	4	1.12	4	--	--
32100	238	221	.93	.67	141	.93	402	.66	139	1.35	282	1.12	267	1.32	272
33100	2	2	1.20	1.00	3	.93	3	1.00	6	1.33	4	1.01	2	1.33	8
33200	349	656	1.88	1.11	254	.93	590	1.15	329	1.58	351	1.01	352	1.59	456
33300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
33400	31	89	2.86	2.00	40	.93	52	1.98	131	1.15	23	1.01	31	1.14	75
33500	306	569	1.86	1.54	275	.93	517	1.58	464	1.35	241	1.01	309	1.40	415
33600	21	25	1.20	1.00	17	1.69	35	1.04	51	1.24	21	1.12	24	1.31	64
34100	3	4	1.20	1.00	3	1.69	5	1.00	25	1.33	4	1.12	3	1.24	31
34200	21	45	2.14	1.21	17	1.69	35	1.23	148	1.64	17	1.12	24	1.27	152
34300	2	2	1.20	1.00	2	1.69	3	1.00	4	1.00	2	1.12	2	1.25	5
40100	3	4	1.40	1.00	3	2.58	8	1.00	5	1.33	4	.80	2	1.20	6

GREAT FALLS CITY-COUNTY PLANNING BOARD

TRANSPORTATION STUDY UPDATE

Zone	1972 D U's	1972 Autos/ Zone	1972 Autos/ DU	1968 Students DU	1968 Students Zone	1972 Students DU	1972 Students Zone	1975 Students DU	1975 Students Zone	1968 Emp./ DU	1968 Emp./ Zone By Res.	1972 Emp./ DU	1972 Emp./ Zone By Res.	1975 Emp./ DU	1975 Emp./ Zone By Res.
40200	46	84	1.83	1.38	55	1.58	73	1.41	55	1.28	51	1.35	62	1.31	51
41100	3	4	1.20	1.00	2	1.69	5	1.00	2	1.00	2	1.12	3	--	2
41200	19	17	.87	1.95	43	1.58	30	1.90	40	1.00	22	1.55	26	.95	20
42100	181	481	2.66	.60	101	1.58	286	.61	113	1.37	231	1.35	244	1.41	259
42200	376	549	1.46	1.37	420	1.58	594	1.37	434	1.52	465	1.35	508	1.52	479
43100	501	611	1.22	1.41	635	.75	376	1.37	641	1.63	734	1.01	506	1.58	741
43200	439	562	1.28	.91	277	.75	329	.87	290	1.24	378	1.01	443	1.29	396
43300	18	19	1.05	1.11	20	.75	14	--	--	1.39	25	1.01	18	--	--
43400	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
43500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
43600	6	7	1.20	1.00	6	.75	5	--	--	1.17	7	1.01	6	--	--
43700	3	8	2.66	.80	8	.75	2	--	--	1.19	19	1.01	3	--	--
44100	131	113	.86	1.00	120	.75	98	1.07	124	1.24	140	1.01	132	1.25	145
44200	424	517	1.22	1.15	460	.75	318	1.16	473	.99	397	1.01	428	1.00	408
44300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
44400	34	83	2.45	.81	26	.75	26	.80	8	1.22	39	1.01	34	1.10	11
44500	116	288	2.48	.66	73	.75	87	.64	74	1.33	146	1.01	117	1.29	148
44600	146	129	.88	--	--	.75	110	--	--	1.14	207	1.01	147	1.51	203
50100	16	11	.67	1.63	26	1.23	20	1.58	30	2.00	13	1.42	23	1.89	36

GREAT FALLS CITY-COUNTY PLANNING BOARD

TRANSPORTATION STUDY UPDATE

Zone	1972 D.U.'s	1972 Autos/ Zone	1972 Autos/ DU	1968 Students DU	1968 Students Zone	1972 Students DU	1972 Students Zone	1975 Students DU	1975 Students Zone	1968 Emp./ DU	1968 Emp./Zone By Res.	1972 Emp./ DU	1972 Emp./Zone By Res.	1975 Emp./ DU	1975 Emp./Zone By Res.
50200	348	550	1.58	1.77	559	1.23	428	1.70	584	1.51	475	1.42	494	1.44	497
51100	4	4	1.00	1.00	4	2.58	10	1.00	4	1.25	5	.80	3	1.25	5
51200	1	1	1.00	1.00	1	2.58	3	1.00	2	1.00	1	.80	1	1.00	2
52100	35	27	.77	1.44	36	1.69	59	1.44	82	1.28	32	1.43	50	1.28	73
52200	718	1,056	1.47	1.71	1,180	1.23	883	1.63	1,154	1.52	1,052	1.42	1,020	1.45	1,030
52300	1	1	1.47	--	--	1.90	2	--	--	--	--	1.43	1	--	--
52400	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
52500	938	1,341	1.43	1.38	1,061	1.90	1,782	1.35	1,167	1.84	1,413	1.43	1,341	1.80	1,554
52600	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
53100	143	277	1.94	1.71	241	1.23	176	1.64	238	2.14	271	1.42	203	1.85	268
53200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
53300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
53400	1	--	--	1.00	1	1.23	4	--	--	1.00	1	1.42	4	--	--
53500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
53600	1	--	--	1.00	1	1.23	1	--	--	1.00	1	1.42	1	--	--
53700	10	18	1.94	1.00	4	1.23	12	--	--	1.25	5	1.42	14	--	--
54100	3	3	1.00	1.33	4	.72	2	--	--	1.33	4	1.16	3	--	--
54200	395	596	1.51	.72	290	.72	284	.74	343	1.35	546	1.16	458	1.40	645

GREAT FALLS CITY-COUNTY PLANNING BOARD

TRANSPORTATION STUDY UPDATE

Zone	1972 D.U.'s	1972 Autos/ Zone	1972 Autos/ DU	1968 Students DU	1968 Students Zone	1972 Students DU	1972 Students Zone	1975 Students DU	1975 Students Zone	1968 Emp./ DU	1968 Emp./Zone By Res.	1972 Emp./ DU	1972 Emp./Zone By Res.	1975 Emp./ DU	1975 Emp./Zone By Res.
55100	38	83	2.19	1.53	--	.72	27	--	--	1.53	51	1.16	44	1.36	49
<u>TOTAL</u>	<u>22,643</u>	<u>22,050</u>			<u>23,577</u> *8	<u>22,643</u>		<u>25,134</u>			<u>21,008</u>		<u>26,887</u>		<u>33,100</u> *100 <u>33,200</u>

The approximate numbers not counted in 1968, attributed to Malmstrom Air Force Base.

